FACILITIES MANAGEMENT OPPORTUNITIES IN WESTERN EUROPE, 1986 - 1991

INPUT

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Offices

NORTH AMERICA

Headquarters
1943 Landings Drive
Mountain View, CA 94043
(415) 960-3990
Telex 171407

New York
Parsippany Place Corp. Center
Suite 201
959 Route 46 East
Parsippany, NJ 07054
(201) 299-6999
Telex 134630

Washington, D.C.
8298 C, Old Courthouse Rd.
Vienna, VA 22180
(703) 847-6870

EUROPE

United Kingdom
INPUT
41 Dover Street
London W1X 3RB
England
01-493-9335
Telex 27113

Italy
Nomos Sistema SRL
20124 Milano
Viale Vittorio Veneto 6
Italy
228140 and 225151
Telex 321137

Sweden
Athena Konsult AB
Box 22232
S-104 22 Stockholm
Sweden
08-542025
Telex 17041

ASIA

Japan
ODS Corporation
Dai-ni Kuyo Bldg.
5-10-2, Minami-Aoyama
Minato-ku,
Tokyo 107
Japan
(03) 400-7090
Telex 26487

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FACILITIES MANAGEMENT OPPORTUNITIES IN WESTERN EUROPE, 1986-1991

ABSTRACT

Since the acquisition of EDS by General Motors in 1984, the subject of facilities management (FM) has been a topic of intense interest among the European computing services vendor community. INPUT has responded to a need for sound market data on the development of this service by conducting a survey among the users and vendors of FM.

The survey covers the four major countries in Europe--France, Italy, the U.K., and West Germany. Over 100 interviews were taken, of which 72 went into the full final analysis from which were derived the market sizings for 1985 and 1986 and the market forecasts for 1987, 1988, and 1991. A $500 million market in Europe is forecast for 1991.

The report includes analyses of market requirements and describes some of the future opportunities which are opening up at this time.

This report contains 148 pages, including 37 exhibits.

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I INTRODUCTION

I INTRODUCTION

A. THE DEFINITION OF FM

- Facilities management (FM) is a concept of 20 years standing. It originated in the U.S. in the late 1960s and is associated with Ross Perot, the ex-IBM salesman who founded Electronic Data Systems, Inc. (EDS).

- The concept was designed to take away the pain of running the new-fangled computer operations centres about which the general management of the day knew little. It its simplest, original form, the customer paid a fixed annual fee to the FM contractor who ran the centre for him and incurred the costs of so doing on his own account.

- FM crossed the Atlantic, established itself in Europe, and was moulded to the business and data processing industry climates of the national markets of that region.

- Both in the U.S. and in Europe, it remained an option for the minority. Perhaps 1,000 mainframe sites in the U.S. and 200-300 contracts in Europe are today involved in facilities management of one type or another.

- It also remained characteristically an option for the large organisation because the savings were to be had there for the user and the profits were also potentially present to be gained by the supplier. However, it tended to split into two types of FM, and INPUT's definitions of the service are today based on this split, although the concept is still evolving and in Europe can now be construed to cover forms of bureau contracts in which the user has never installed an in-house computing centre.

- Appendix A details INPUT's complete range of terminology for the information processing services industry. The two areas of FM are:

  - Processing services, in which management of a user's computer operations is included whether performed on the vendor's or the user's site, so long as the facility is owned by the vendor.

  - Professional services, in which the same service is performed, but the user owns the facility and the vendor provides the management and staff to manage, operate, and, optionally, to develop the systems.

- This report covers both types of definition, irrespective of which party owns the equipment or the premises in which it is housed. The key features of the FM contract which distinguish it from other EDP solutions are:

  - It is long-term, in the sense that it is for at least one year.

  - The contractor is responsible at the very minimum for operating the computer systems on which the user's applications are run. He may also be contracted to develop the applications to manage or provide data communications facilities, to supply consultancy, etc.

  - The scope of the work is large enough for it to embrace either the whole of a user's EDP function or a major section of the workload, across a range of applications.

- The key development, which allows the definition to be applied more generously than at the inception of FM, is that of the 'virtual machine', which when combined with a telecommunications facility permits a user to have shared access to continuous computing power, tailored up or down to his precise requirements and available at whatever service level that is contracted for. This capability blurs the boundaries between:

- The 'old-fashioned' service bureau type of services.
- In-house capabilities delivered from the corporate EDP centre.
- Facilities management.

B. OBJECTIVES AND SCOPE

- INPUT's objectives in preparing this report have been to:
    - Research the market opportunities for FM which are available to computing services vendors as a result of this technological convergence between hardware, software, and telecommunications developments.
    - Address the product and marketing issues which confront vendors seeking to achieve success in this field.
- The report covers the country markets of France, Italy, the United Kingdom, and West Germany. The term Western Europe (or Europe, for short) is used throughout the report to define these four individual markets considered as a group.
- The forward forecasting period, based on a base year of 1985, is from 1986 to 1991.

C. METHODOLOGY

- Field research was carried out from June to August 1986.
  - Forty-six vendors and 91 users were interviewed.
  - Twenty-two vendors and 50 users provided fully analysable interview data (see Appendices C and D for the contents of the questionnaires used).
- INPUT's continuing research programmes on the information services markets of both Western Europe and the U.S. were also used as important contributors to the analysis of this market.
- For convenience of comparison between country markets, local currencies have been converted to U.S. dollars. The dollar conversion rates assumed over the five-year period 1985 to 1990 are given in Appendix B. These assumed conversion rates should not be interpreted as forecasts of actual exchange rates likely to hold over that period.

D. REPORT STRUCTURE

- The remaining chapters of this report are organised as follows:
  - Chapter II is the Executive Overview providing a summary of the contents of the entire report.
  - Chapter III consists of INPUT's analysis of the FM market in Western Europe and the forward forecast for the forecast period through 1991.

  - Chapter IV comprises the analysis of user attitudes and requirements as derived from the user interviews in the country markets.

  - Chapter V comprises the analysis of the vendor interviews, highlighting practices and attitudes in a sample which covers an estimated 50% of market revenues in this sector.

  - Chapter VI discusses the opportunity areas which are opening up for this type of service and explains how suppliers should conduct their marketing activities.

  - Chapter VII describes, in short three to five page profiles, seven of the principal suppliers to the FM sector.

  - The Appendices contain a list of INPUT's definitions of terms, the dollar conversion rates used, and the survey questionnaires.

- Enquiries and comments are invited by INPUT regarding this report and its related areas of interest.

- INPUT expresses its thanks to all those individuals and companies that participated in the research programme upon which this report is based.

II EXECUTIVE OVERVIEW

II EXECUTIVE OVERVIEW

- This Executive Overview is designed in a presentation format in order to:
  - Help the busy reader quickly review key research findings.
  - Provide a ready-to-go executive presentation, complete with script, to facilitate group communication.
- The key points of the entire report are summarised in Exhibits II-1 through II-6. On the left-hand page facing each exhibit is a script explaining its contents.

A. FACILITIES MANAGEMENT—A REVITALISED CONCEPT

- The convergence of computing and telecommunications has had the unexpected side effect of revitalising the 20-year old concept known as facilities management (FM).

- This has been brought about particularly by the improved efficiency and cost-effectiveness of data communications in Europe and has been accelerated by the ongoing process of the liberalisation of the telecommunications environment, a process which started in the U.K. but still has an enormous amount of ground to cover.

- The fact that it is just as easy for a company to communicate with a third-party's computer complex as with its own corporate data centre gives a whole new dimension of accessibility to the third-party contractor to offer as complete and effective a service as can be obtained from the internal EDP function.

- This equality of opportunity between the internal supplier and the external contractor is most complete for large, dispersed organisations with multi-divisional structures and interests in many industries.

- Hence, the large and very large companies in government, finance, and manufacturing are exciting prospects for the FM contractor with substantial resources in manpower and finance.

EXHIBIT II-1

INPUT®

FACILITIES MANAGEMENT
A REVITALISED CONCEPT

- Convergence
  - Computers/Communications
- Improved Data Communications
  - Gives FM Supplier Equal Status
  - Equal Access to Corporate User Base

B. FM--A $500 MILLION OPPORTUNITY PLATFORM

- INPUT forecasts that the FM market will grow from a 1986 value of $275 million for the four major country markets of France, Italy, the United Kingdom, and West Germany to a value of at least $530 million by 1991.

- This forecast is a conservative prediction based on a continuation of the current business climates in these four countries.

- It could well be exceeded if the climate of business opinion which is prevalent at this moment in the U.K. spreads to the other important markets in continental Europe.

- This climate is summarised by having an orientation towards service, meaning service which can just as simply be 'bought' from an outside agency as 'made' within the customer's own organization--opting for the 'buy' solution in the classic 'buy versus make' decision.

- The moderate but useful growth rate of 14% takes into account the market forces fostering the growth of FM and those entrenched attitudes tending to inhibit it, such as:

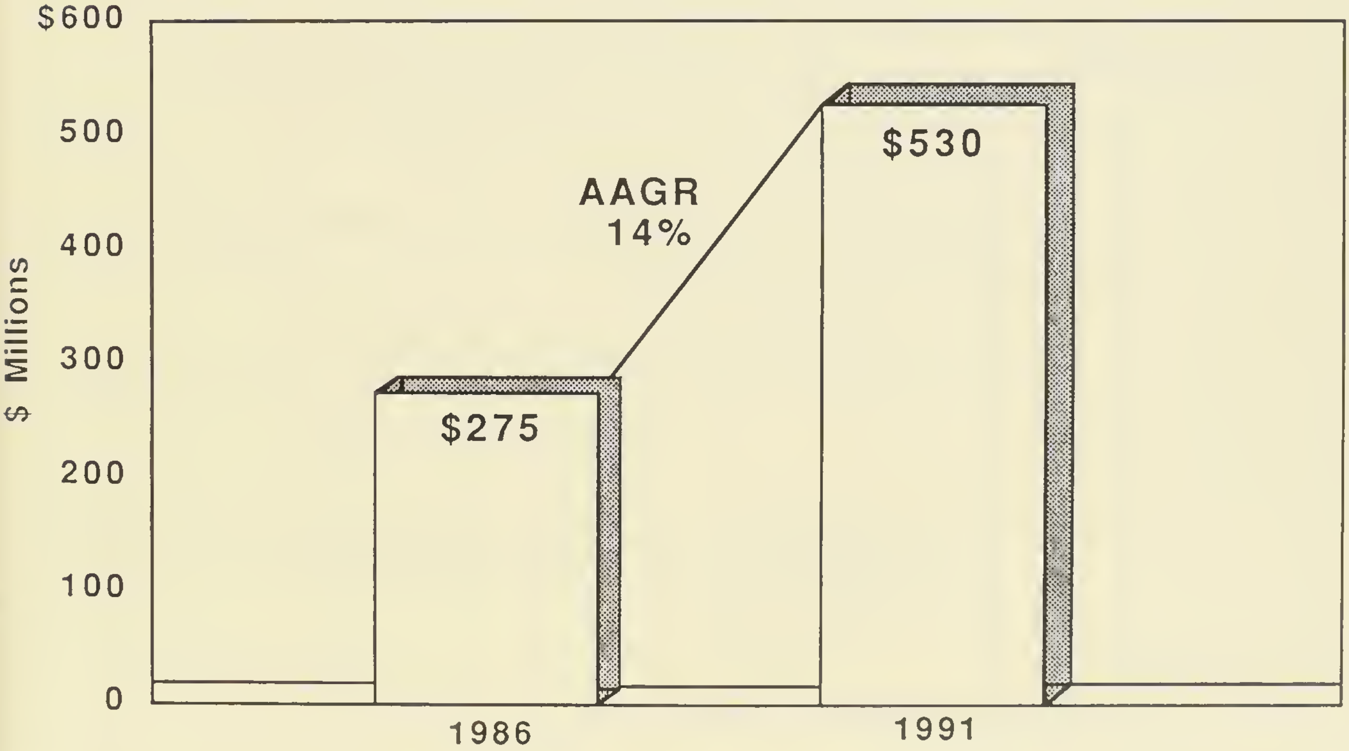
    - Hostility from the internal information systems function.

    - Concern with the issues of confidentiality, data security, and loss of control.

EXHIBIT II-2

INPUT®

FM - $500 MILLION OPPORTUNITY PLATFORM



C. OPPOSING TRENDS—WHICH WILL PREVAIL?

- Technological and commercial trends favour an increased acceptance of the FM formula, raising it above its present level of penetration:
    - Less than 2% of European computing services revenues were in FM in 1985.
    - Under 300 sites in Europe are under FM control. This is under 2% of the mainframe population engaged in commercial EDP.

- Main supporting trends driving the market forward are:
    - Management's need to see information systems as a cost-effective tool in the battle for commercial success.
    - The chronic shortage of skilled and experienced professional computing staff.
    - The difficulty for all but the biggest organisations to be able to master the full range of complexities presented by today's innovative and fast-changing information industry.

- Countervailing forces are, however, hard at work to militate against anything but an in-house solution to corporate EDP requirements. These forces include:
    - The MIS function, which regards FM with fear, suspicion, or downright hostility.
    - IBM, which has traditionally backed the in-house EDP function.
    - Confidentiality and data security, which are intensely sensitive issues, especially with older general management.

EXHIBIT II-3

INPUT®

OPPOSING TRENDS WHICH WILL PREVAIL?

- FM Currently Less than 2% of Europe's CS Revenues
- Drivers Will Increase Penetration:
  - Information to Become a Tool
  - Skill Shortage
  - Technology too Complex
- Inhibitors Non-Trivial

D. FM—THE EUROPEAN PERSPECTIVE

- France is the largest market in 1986 but has the lowest growth rate over the next five years, going from $107 million to $175 million, an annual growth rate of 10%.

- The U.K. is overtaking Italy to take second position by the end of 1986, and is forecast to wrest first place from France by 1991, when it will spend $180 million on FM. This will be achieved at an annual growth rate of 21%.

- Italy will lose market share over the period, dropping from 25% today to 22% in 1991, while West Germany will maintain its fourth position with only 11% AAGR throughout the five years.

- The acceptability of FM is variable across the four major countries.

    - France has a matured FM sector but is uncertain of its future direction.

    - The U.K. suppliers have a bouyant attitude, stimulated by the current business climate and the way it favours service company approaches in all types of industry.

    - West Germany has a very deeply ingrained preference for the in-house solution to EDP needs. The FM concept is all the time swimming against the current in this environment.

    - Italy has not yet become interested in the newfound vigour of the FM concept, but there is a long-standing experience of its use in certain quarters such as the public service.

EXHIBIT II-4

FM - THE EUROPEAN PERSPECTIVE

- France, Largest Market Today, Loses Out to United Kingdom by 1991
- United Kingdom Growth 21% versus France's 10%
- Italy Also Losing Market Share - Will Become the Number 3
- West Germany Distrusts FM Concept

E. IDENTIFYING THE OPPORTUNITIES

- The market for facilities management is poised to become important in the U.K. due to the entrepreneurial business climate which has been fostered by current government policies.

- Vendor marketing was found to be too generic, too opportunistic, and in many cases almost nonexistent.

- To assist in bringing focus to the sector, INPUT has identified three subsectors by size of contract value:

    - Small systems--anything up to an annual fee of $500 thousand.

    - Medium/large systems--from $500 thousand to $5 million.

    - Large dedicated systems--anything over $5 million.

- Areas of new opportunity are occurring in:

    - Remote FM, defined as the computer operations room on the vendor site in a mode which is transparent to the user.

    - Database and videotex services, as increasing use is made of computer-based information for business and consumer applications.

    - EFT/POS, as use of 'cashless' shopping in stores, service stations, and the high street becomes more common.

EXHIBIT II-5

INPUT®

IDENTIFYING OPPORTUNITIES

- U.K. Promising
- FM Too Generic - Focus
- Market Segmentation
- Opportunity Areas
  - Remote FM
  - On-line DB
  - EFT/POS

F. RECOMMENDATIONS

- Vendors must look at their existing FM offerings from a strategic viewpoint.
- Many vendors are only in the market in case it decides to break.
- The long-term industry trends favour the bold initiative.
  - EDS's marketing campaign has brought prominence to the issues throughout Europe.
- Vendors must evaluate the importance of FM to the overall product mix in order to assess their investment priorities.
- Vendors must focus their offerings so as to clearly identify the subsegments they wish to address:
  - Small, medium/large, large.
  - Specific industries in which they have a track record.
  - Specialty areas--FM of InfoCentres, Videotex Centres Serveurs, Databases, EFT for the distribution industry.
- The onus will remain for some time with the vendors to sell the opportunities, which means selling their capabilities as 'first line' suppliers to the EDP function.
- All the techniques of account selling must be brought to bear on the FM sector marketing thrust.

EXHIBIT II-6

INPUT®

RECOMMENDATIONS

- Must Consider FM Strategic
- Address Specific Segments
    - By Size
    - By Industry
    - By Specialty
- Market - Onus on Vendors
- Account Selling

III FM MARKET ANALYSIS AND FORECASTS

III FM MARKET ANALYSIS AND FORECASTS

A. INTRODUCTION

- FM is a $275 million market in Europe in 1986 and is forecast to grow at an average annual growth rate of 14% to reach over $500 million by 1991.

- It is characterised by a high degree of maturity and a variability in growth rate across the four countries studied.

  - West Germany where FM is least successful, has a moderate growth rate of 14% per annum.

  - The U.K., where the FM concept has recently received a new lease on life, has the highest with 21%.

- These growth rates are quoted against the dollar market values calculated by conversion from the local currency values using the conversion rate assumptions contained in the table in Appendix B.

- Local currency growth rates are higher or lower according to the movements of the rates over the forecast timeframe. Exhibit III-1 shows the overall comparison of markets by country for the period 1985-1991.

EXHIBIT III-1

MARKET FORECAST FOR FACILITIES MANAGEMENT IN WESTERN EUROPE, 1986-1991

MARKET SUBSECTOR		$ Millions						AAGR 1986-1991 (Percent)
		1985	1986	AAGR 1986/1985 (Percent)	1987	1988	1991	
France	Local Currency	688	755	10%	850	965	1,250	11%
	$ Millions	$86	$107	26%	$120	$135	$175	10%
Italy	Local Currency	97	101	4%	110	136	195	14%
	$ Millions	$55	$67	24%	$72	$86	$115	11%
United Kingdom	Local Currency	35	45	29%	65	80	125	23%
	$ Millions	$50	$69	38%	$98	$119	$179	21%
West Germany	Local Currency	66	70	5%	75	85	120	12%
	$ Millions	$25	$32	27%	$35	$40	$61	14%
Total	$ Millions	$216	$275	28%	$325	$380	$530	14%

SFME J

B. MARKET SEGMENTATION

- The market operates in three different segments which are most usefully distinguished by the size of the all-in annual fee charged by the FM contractor to his customer.

1. SMALL SYSTEMS FM

- The small systems segment covers fees up to an annual sum of $500 thousand in 1985 dollar terms. The facilities provided in this fee range include minicomputer, superminicomputer, small business system, and small mainframe-based services up to the level of IBM 4300 and DEC System 20. The size of facility used is highly variable from country to country.

  - In Italy, a small business system might be run on a user's site by staff seconded from a local service company. The system could be owned by either party.

  - In the U.K., a user might be offered an ADP ONSITE system hooked up to the ADP network on an annual FM MODS (Maintenance Operations and Diagnostic Service) contract after having outgrown a Virtual Computer OFFSITE system previously shared from the supplier's machine room complex on a similar contractual basis.

- The segment has been found, therefore, to include both user site and vendor site facilities. The top end of the price range is usually found to occur when the hardware is vendor-owned or vendor-supplied on a fixed-term rental/leasing type of arrangement, whereas the lower end applies when the user acquires equipment from a third party.

2. MEDIUM/LARGE FACILITIES

- Again, these systems can be supplied on user site or vendor site, though there is a pronounced trend, even if hardware is sited with the customer at the start of a contract period, for the workload to be transferred onto a vendor site system over a period of time.

- This trend is in line with the build-up and expansion of very large networked machine complexes in the hands of the major computing services vendors, particularly in the case of those companies who have been offering processing services continuously since the early days of the batch bureau.

- Medium/large FM is situated in the price range from $500 thousand to $5 million at constant 1985 dollar rates. It may be provided through a dedicated set of hardware purchased by the user or through a shared facility in the vendor premises, this latter known as the virtual computer facility alluded to in Chapter I.

- The medium/large sector is attractive to large numbers of FM suppliers since its revenue yield is considerable and its sales lead time is not excessive. It does not, however, possess the volume sales attributes of the small systems segment, and participants must expect to compete in terms of quality of support and service with significant rivals.

3. LARGE SYSTEMS FM

- The upper segment starts at a price range of $5 million per annum and can in very large contracts be dealing with fees of ten times that amount, $50 million or more. At that size, new contracts are numbered each year on one hand in each country market and are only attractive to the largest suppliers. Most of these systems are commissioned by large public sector bodies and government administrations.

- The principal features of the segment are:
  - Equipment has to be dedicated to sole use of the customer and may be sited in several locations linked by telecommunications facilities.
  - Sales lead times are in excess of 12 months; therefore, tendering is an expensive undertaking.

C. FACTORS AFFECTING THE GROWTH OF THE MARKET

- FM had come to be taken for granted as a settled niche sector in which a few well-known names plied their trade in essentially national markets--Hoskyns in the U.K., Telesystemes and GSi in France, some bureaux in Rome serving the Italian administration.

- All that has changed in Europe since EDS began to publicise its particular brand of service over the last two years. Based on the notion that specialisation has economic benefits and that computing specialists are the 'horses' to undertake the users' EDP 'courses', the EDS concept of an all-embracing service to relieve the top managers of the 1980s of the worries of the information technology era is not new.

- What is new or, rather was new, in Europe was the fervour with which the doctrine was preached to an unconverted generalist Europe.

- The cycle of Europe's economic fortunes would appear to support the FM gospel. Life is too competitive and too dynamic for modern companies to permit management to waste its time on an internal activity like computing. EDP is a tool to be reached for and used when it is needed.

- The opposite view still finds favour, however, in traditionally organised companies, which instinctively believe in their own unique identity and doubt the ability of the outsider to understand, let alone work with, the mixture of skills and experience which make a company what it is.

- Exhibits III-2 and III-3 list the factors quoted by vendor respondents as favouring or inhibiting the growth of FM in Europe.

    - High on the list of drivers is the chronic skills shortage in many parts of the industry.

    - Paramount on the list of inhibitors is the entrenched attitude of the information services function in corporate life, backed by the strength in the marketplace of an IBM whose primary objective has been, is, and arguably always will be to 'shift iron'.

- Nevertheless, the greater length of the list of drivers is some indication, in INPUT's view, that facilities management is an idea whose time has come, and that though it will meet with varying degrees of acceptance in European markets, the tide is running in its direction.

- The trend in favour of services companies is confirmed by IBM's strategic moves away from attempting to be all things to all people. This strategic change on IBM's part is showing up earlier in the U.S. where the pressures are greatest.

- The receptivity of Europe to the idea of FM is greatest in those countries where the concepts of service economy are most widely accepted.

    - The U.K., where the City of London and its financial services sector is a strong influence pulling the country's economy into of necessity a service approach.

EXHIBIT III-2

DRIVERS OF MARKET DEMAND

- IT perceived as a support tool to the maintenace of competitive edge.
- The skills shortage in the computing industry.
- The impact of the Information Centre concept.
- EDP staff don't fit into company pay scales.
- Technical volatility of the market.
- Ability to assess costs accurately.
- Quantity of users migrating to IBM.
- Need for excess capacity for bursts of activity.
- French employment laws.
- Need for speedy implementations.
- Poor operational performances.
- Increase in the number of fast-growing, young companies.
- Increasing preoccupation with back-up and disaster recovery.
- Desire to minimise fixed overheads to improve business flexibility.
- Rigid rules in government and local government structures.

EXHIBIT III-3

INHIBITORS OF MARKET DEMAND

- Hostility of the EDP/MIS department.
- Cost-consciousness: competition for investment
- Confidentiality: data security: FM vendor owned by a rival.
- Market preoccupied with in-house tools.
- IBM prefers in-house solutions.
- Feeling that it is not right for "our industry": tradition
- Feeling of loss of control: human barriers.
- EDP getting simpler and cheaper: PC dispels the mystique.
- Elderly and conservative management.
- Unionisation.

  - France, where the computing services vendors have established strong domestic market positions in contrast to the performance of the national hardware manufacturer.

D. THE FRENCH MARKET ANALYSIS AND FORECASTS

- France is the leading supplier of FM services in Europe. This parallels that country's leadership of both the processing services and the overall computing services markets. With $86 million (FF 688 million) in 1985, France took a 40% market share.

- However, France's FM sector is forecast to grow at a moderate 11% per annum over the period 1986-1991 due to a lack of marketing thrust in the direction of FM and the falling cost of processing services revenues in the competitive situation created by the success of videotex and the policy of 'telematique' (see INPUT's 1985 report European Videotex Market Opportunities).

- French vendors exhibited a traditional view of FM as a market, but are currently looking for new ways in which to market the concept.

- Telesystemes is the leading supplier to the sector but is not cited in the competitor mentions by the other vendors since its long-term contracts with the DGT come out to open tender so rarely.

- According to vendor mentions, the important active firms are:

  - Cap Gemini Sogetti.

  - GSi.

  - SG2.

  - GFI.

  - Sogeris.

  - EDS.

  - Sema-Metra.

  - Sligos.

- The inclusion of Cap Gemini Sogetti and Sema-Metra illustrates the importance of not forgetting the in-house solution as the chief rival. These firms are not in the FM business but will be in contention for large-scale contract business when an in-house system is one of the alternatives being considered.

- Exhibit III-4 summarises the present and future forecast market values for France in terms of contract units placed in each subsegment and of local currency. The market growth areas are:

  - Small systems segment where opportunities exist to run mini-based centres serveurs for service companies wishing to mount videotex information services on the Teletel service (see Chapter VI for more detail).

  - The large dedicated systems area in which a few major contracts including networking will occur in the fields of EFT/POS for the distribution industry and in banking, with possibly public sector projects as well.

EXHIBIT III-4

MARKET FORECAST FOR FACILITIES MANAGEMENT IN FRANCE, 1986-1991

MARKET SUBSECTOR (PRICE RANGE)		CONTRACT UNITS AND MARKET VALUES (FF Millions)						AAGR 1986-1991 (Percent)
		1985	1986	AGR 1986/ 1985 (Percent)	1987	1988	1991	
Small Systems (FF 0.2 M - FF 4.0 M)	Units	25	50	100%	80	120	180	29%
	FF Millions	40	80	100%	130	175	240	25%
Medium/Large Systems (FF 4.0 M - FF 40 M)	Units	30	32	7%	35	40	58	13%
	FF Millions	408	415	2%	425	450	510	4%
Large Dedicated Systems (FF 40 M - FF 80 M)	Units	5	6	20%	7	8	12	15%
	FF Millions	240	260	8%	295	340	500	14%
Total	Units	60	88	47%	122	168	250	23%
	FF Millions	688	755	10%	850	965	1,250	11%

E. THE ITALIAN MARKET ANALYSIS AND FORECASTS

- Exhibit III-5 shows the current market size and the forecast values for the Italian FM sector, which is second in importance in Europe to France.

- The Italian market is characterised by a high number of low-value contracts issued to small companies and serviced by local computer bureaux and software houses.

- They result from the practice of hiring systems staff from outside companies on a long-term basis in situations where management does not intend to employ professionals on its permanent staff payroll. The equipment component of these deals is low, hence their low value overall. This segment is forecast to decline in importance, with only single figure growth rates predicted.

- At the top end of the market, public sector bodies are prevented by certain administrative practices particular to the country from employing in-house systems and programming development staff. This has fostered the continuation of a handful of long-term contracts for government, both central and local. This is seen as the medium-term opportunity area for the major national computing sevices vendors.

- According to the vendor competitor mentions, companies active in the sector (in order of descending number of mentions) are:

    - Italsiel.

    - Enidata.

    - Data Management.

EXHIBIT III-5

MARKET FORECAST FOR FACILITIES MANAGEMENT IN ITALY, 1986-1991

MARKET SUBSECTOR (PRICE RANGE)		CONTRACT UNITS AND MARKET VALUES (Lira Billions)						AAGR 1986-1991 (Percent)
		1985	1986	AGR 1986/1985 (Percent)	1987	1988	1991	
Small Systems	Units	75	80	7%	90	100	110	7%
(Lira 0.04 B - Lira 0.4 B)	Lira Billions	26.6	27	2%	29	31	35	5%
Medium/Large Systems	Units	20	21	5%	23	25	30	7%
(Lira 0.4 B - Lira 2.0 B)	Lira Billions	17.7	19	7%	21	25	30	10%
Large Dedicated Systems	Units	5	6	20%	7	10	15	20%
(Lira 2.0 B - Lira 15 B)	Lira Billions	53.1	55	4%	60	80	130	19%
Total	Units	100	107	7%	120	135	155	8%
	Lira Billions	97.4	101	4%	110	136	195	14%

- Olinet (ex Ge-Da).

- Seva.

- Datamont.

- Sopin.

- Geis.

- Groups of banks, small local companies, and universities were also mentioned as competitors. This amounts to a fragmented, regionalised market situation.

- In the mid-range (medium to large) contract area, growth is forecast to be slow, but more opportunities are likely to appear after the implemention of the next phase of the Videotel videotex network when there will be requirements to mount and run Centre Serveurs on similar lines to the French.

F. THE U.K. MARKET ANALYSIS AND FORECASTS

- The U.K. starts the period behind Italy in market share of the European FM sector but is forecast to grow to overtake France in the leadership position in 1991.

- The significantly faster growth rate in the U.K. than in any other of its country rivals is due to a combination of factors, some short-term, some of more strategic impact.

  - The U.K. has become to an extent deindustrialised and is relying increasingly on the service sector as an engine of growth.

  - The U.K. business climate is highly receptive to business methods emanating from the U.S.

  - Developments in the City of London are promoting the adoption of modern EDP techniques in what used to be a bastion of conservatism.

  - Hoskyns, the U.K.'s FM market leader, has set an example of very high growth with significant profit and is eyed with some envy by its competitors. Its approach to FM is well thought out and integral to its total market strategy.

- Exhibit III-6 details the market sizing and forecasts. It shows a 35 million pound sector in 1985 more than tripling to 125 million pounds by 1991. The most important segment is the medium/large system contract in the range of 0.4 million pounds to 4 million pounds. This segment is strongly driven by a growing conviction among British top management that companies should concentrate on what they do best and leave the computing to professional companies whose quality can be tested by their continuing survival in the commercial marketplace.

- This prime opportunity for computing services vendors needs to be seized with both hands and addressed with vigour, competence, and investment.

- Besides Hoskyns, other vendors with significant revenues from FM in the U.K. are:

  - EDS.

  - Scicon (subsidiary of BP).

  - PCL Computers (ex P&O Computer Services).

  - Datasolve.

EXHIBIT III-6

MARKET FORECAST FOR FACILITIES MANAGEMENT IN THE UNITED KINGDOM, 1986-1991

MARKET SUBSECTOR (PRICE RANGE)		CONTRACT UNITS AND MARKET VALUES (£ Millions)						AAGR 1986-1991 (Percent)
		1985	1986	AGR 1986/ 1985 (Percent)	1987	1988	1991	
Small Systems (£ 0.1 M - £ 0.4 M)	Units	12	15	25%	18	21	30	15%
	£ Millions	2.1	3	43%	4	4	6	15%
Medium/Large Systems (£ 0.4 M - £ 4.0 M)	Units	35	37	6%	45	50	70	10%
	£ Millions	23.1	29	26%	44	50	75	22%
Large Dedicated Systems (£ 4.0 M - £ 50 M)	Units	2	3	50%	4	6	9	25%
	£ Millions	9.8	13	33%	18	26	44	28%
Total	Units	49	55	12%	67	78	109	12%
	£ Millions	35.0	45	29%	65	80	125	23%

  - ADP Network Information Services.

  - Comshare Ltd.

- A large number of less active companies are known to be prepared to offer FM contracts but are not serious contenders for market share.

G. THE WEST GERMAN MARKET ANALYSIS AND FORECASTS

- Out of the four major countries, the West German FM market remains the most difficult one to work in. Witness INPUT's difficulty in interviewing a major FM supplier. The major reasons contributing to this situation are:

  - West German users are highly orientated towards an all in-house solution to EDP requirements and always have been. The FRG is after all IBM's most important European purchaser of equipment.

  - West German management is strongly suspicious of letting control of information fall outside its own sphere.

  - West Germany does not enjoy a cheap data communications environment nor a liberal one, and this reduces the outside contractor's ability to include an effective networking capability into his FM offering. As we have seen, this is a key component of a modern FM capability.

- Exhibit III-7 shows the market size and market forecasts.

  - There is virtually no small systems component.

EXHIBIT III-7

MARKET FORECAST FOR FACILITIES MANAGEMENT IN WEST GERMANY, 1986-1991

MARKET SUBSECTOR (PRICE RANGE)		CONTRACT UNITS AND MARKET VALUES (DM Millions)						AAGR 1986-1991 (Percent)
		1985	1986	AGR 1986/1985 (Percent)	1987	1988	1991	
Small Systems (DM 0.3 M - DM 1.0 M)	Units	-	-	-	-	-	-	-
	DM Millions	-	-	-	-	-	-	-
Medium/Large Systems (DM 1.0 M - DM 10 M)	Units	22	25	14%	28	30	38	9%
	DM Millions	36	38	3%	40	45	60	10%
Large Dedicated Systems (DM 10 M - DM 25 M)	Units	2	2	0%	3	3	4	15%
	DM Millions	30	32	7%	35	40	60	13%
Total	Units	24	27	8%	31	33	42	12%
	DM Millions	66	70	5%	75	85	120	12%

  - The best growth potential is in the large systems, but there are so few contracts available that it is not a market in any sensible use of the term.

- As the manufacturing heart of the European economy, West Germany's economic and business climate is at the opposite end of the spectrum from the service orientation of the U.K. and France.

IV USER ATTITUDES, EXPERIENCES, AND REQUIREMENTS

IV USER ATTITUDES, EXPERIENCES, AND REQUIREMENTS

A. COMPOSITION OF THE USER SAMPLE

- The user sample was targeted at large and medium-sized organisations on the assumption that it is the larger and more complex EDP requirements which are more likely to invite the totality of solution by third-party intervention which FM implies.

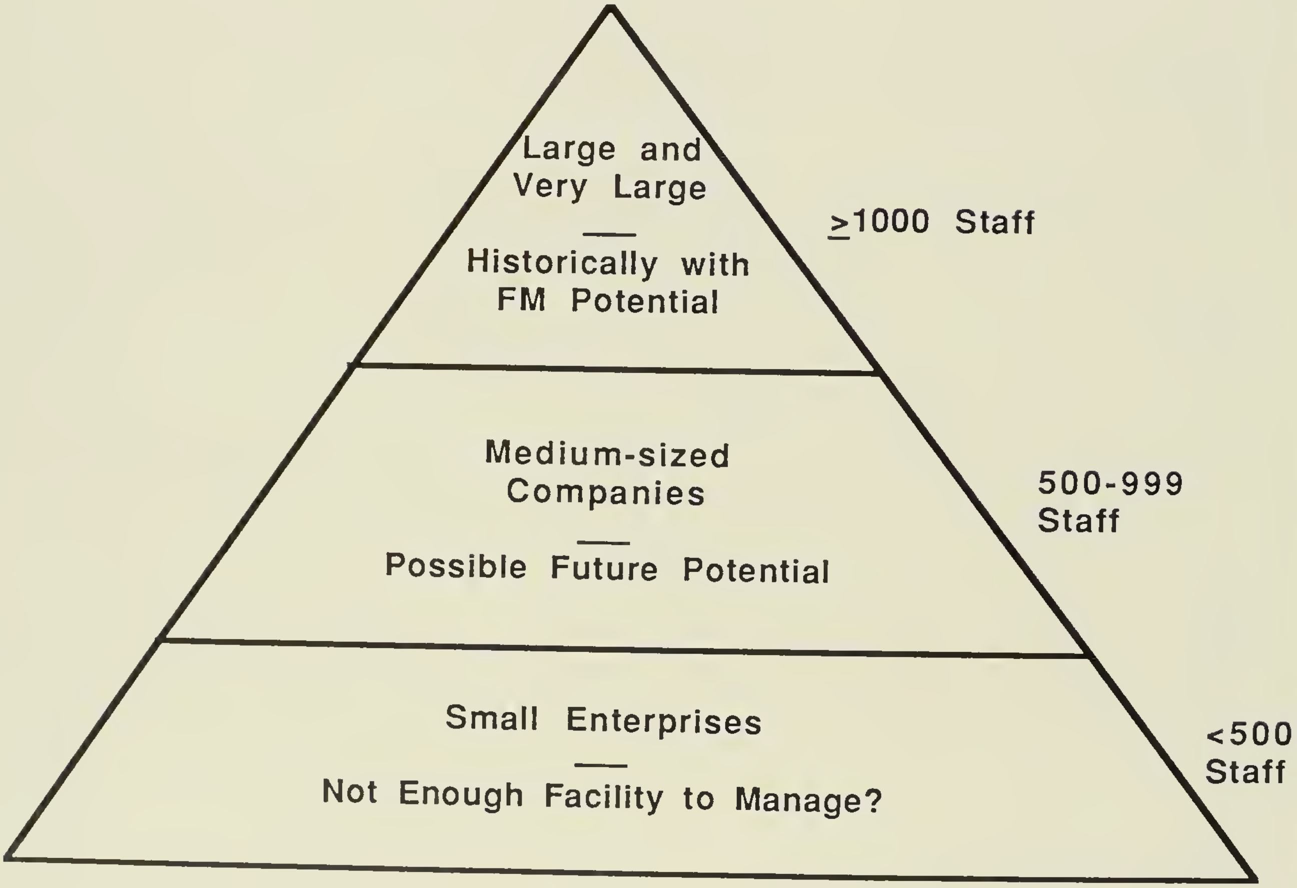
- Nevertheless, in order to detect whether the solution was starting to become more attractive further down the enterprise size pyramid (see Exhibit IV-1), medium-sized companies were also approached.

- The ratio of large (more than 1,000 staff) to medium-sized (between 500 and 999 staff) organisations surveyed was approximately 1:2 in a sample of 50 full interviews taken, with 17 large and 33 medium-sized organizations responding.

- The gross revenues of these organisations approached $30 billion in 1985, when calculated at the correct level to permit equivalent comparisons to be made across the whole range of questions answered, for all members of the sample. Thus, adjustments were made to exclude non-European revenues or revenues in other European countries to which respondents answers did not apply.

EXHIBIT IV-1

THE ENTERPRISE PYRAMID



- These revenues are equal to approximately 1.6% of GDP (gross domestic product) of the four major country markets researched. The figure would be greater if the absence of any Italian users in the sample allowed one to calculate across only three countries.

- Exhibit IV-2 shows the breakdown by users' principal industry sector, indicating a preponderance of manufacturing organisations, or at least of conglomerates with extensive manufacturing interests. This aspect reflects the traditional idea of FM users as coming from the areas of large size and high complexity.

- The table also gives the percentage breakdowns by two other indicators:

  - Total revenues of the sample in Europe showing an emphasis on process manufacturing and banking and finance.

  - Total EDP budgets of the sample, which give a better indication of current expenditure patterns.

- Exhibit IV-3 shows the equivalent table for the sub-sample of seven users who currently report being FM users. In the overall sample, 13 users reported some current or past experience of FM and another two expressed considerable interest in the concept for future large-scale projects.

- Six of the 13 no longer used FM; two had past and current experience, having proceeded to a second contract (in one case in parallel with the initial contract); while another five were in the middle of their first contract.

- In order to research the buying criteria and satisfaction levels of FM users, it was inevitable that the sample should be skewed in favour of organisations with experience of the service.

EXHIBIT IV-2

PROFILE OF USER SAMPLE - ALL RESPONDENTS

PRINCIPAL ORGANISATION ACTIVITY	BY NUMBER OF RESPONSES	AS PERCENTS OF			BUDGET ÷ REVENUE (Percent)
		NUMBER OF RESPONSES	SAMPLE COMPANY REVENUES	SAMPLE EDP BUDGETS	
Discrete Manufacturing	17	34%	6%	8%	1.2%
Process Manufacturing	8	16%	27%	5%	0.2%
Banking and Finance	4	8%	38%	38%	0.9%
Government	4	8%	8%	25%	2.6%
Other	17	34%	21%	24%	0.9%
Total	50	100%	100%	100%	0.9%

EXHIBIT IV-3

PROFILE OF USER SAMPLE - CURRENT FACILITIES MANAGEMENT USERS

PRINCIPAL ORGANISATION ACTIVITY	BY NUMBER OF RESPONSES	AS PERCENTS OF			BUDGET ÷ REVENUE (Percent)
		NUMBER OF RESPONSES	SAMPLE COMPANY REVENUES	SAMPLE EDP BUDGETS	
Discrete Manufacturing	3	43%	3%	14%	1.6%
Process Manufacturing	1	14%	64%	16%	0.1%
Banking and Finance	1	14%	27%	47%	0.6%
Government	-	-	-	-	-
Other	2	29%	6%	23%	0.1%
Total	7	100%	100%	100%	0.3%
All Respondents	50	14%	41%	16%	0.9%

- INPUT estimates that there were something over 200 FM contracts in force in the open market in 1985 in the European countries surveyed, though there were approximately 20,000 installations of machines with the power of an IBM 4300 and above, which are theoretically large enough to warrant FM treatment.

- Thus, FM is practised at the 1% level among installations, and a sample of 100 companies might well only yield one contract. However, since FM expenditure is most often large (of the order of $1 million per annum), FM takes a larger percentage of the overall processing services market in Europe.

- The sample had central EDP expenditure budgets at a level of just under 1% of total revenues. As such, and in terms of purchasing potential, it is deemed representative of the larger universe of all mainframe users.

B. STRATEGIC PURCHASING CONSIDERATIONS

- The first section of the questionnaire was aimed at discovering the pattern of users' purchasing of major new systems and upgrades, with a view to highlighting important evolutionary steps in their system developments and to spotting breakpoints at which the offerings of an FM supplier might prove an attractive option.

- The respondents questioned were at a senior level above that of the EDP management, usually financial director, administration director, or head of a central management services department with easy access to board members.

- Although this meant that certain of INPUT's more technical questions could not always be readily answered, it was a deliberate policy designed to gain insights of a strategic nature.

I. OBSTACLES TO PROGRESS

- Summarising the areas in which organisations encountered the primary obstacles to their progress with information systems, Exhibit IV-4 shows differences between the three country sub-samples.

  - France has difficulties in gaining the interest of users and EDP staff alike, with budgetary factors a close second.

  - In the U.K., cost constraints led the list of impediments, although shortage of manpower resources with the correct skill levels was almost as often cited.

  - West Germany is more preoccupied with the technical problems usually of selecting hardware or of finding adequate software, but shortage of technical resources is also an important barrier to success.

- Overall, the cost and budget problems come out at the head of the list, though this is influenced by the bias associated with the larger U.K. sample. Technical areas and skill shortage are equal seconds. An interesting fourth aspect which rated high in the U.K. was concern with the management of change. This was revealed with two facets:

  - Coping with the decisions consequent upon changes to their businesses or with technology changes coming from the computer industry.

  - Coordinating the implementation of these decisions in a multi-supplier, multi-system, distributed environment.

- These two facets form the primary planks for building a conceptual justification for the FM solution. Some of the problems faced by users throughout Europe at this time are illustrated in Exhibit IV-5 which lists some pertinent comments elicited on the subject of change.

EXHIBIT IV-4

OBSTACLES TO PROGRESS IN PROVIDING INFORMATION SYSTEMS - USER EXPERIENCE

OBSTACLES	NUMBER OF MENTIONS			Overall Europe
	France	United Kingdom	West Germany	
Human Motivational Problems	$\boxed{9}$	2	1	12
Training and Communicating with End Users	4	2	2	8
Organisation and Structure	3	3	6	12
Costs and Budgets	8	$\boxed{17}$	6	$\boxed{31}$
Technical Areas	3	13	$\boxed{8}$	24
Coping with and Coordinating Change	-	12	2	14
Skill Resources Shortages	2	15	7	24
No Strategic Plan	2	-	-	2
No Problems or Other	1	1	2	4

EXHIBIT IV-5

SOME ASPECTS OF CHANGE CITED BY USERS

- Getting our staff and our users to cope with novelty.
- Difficulty expanding into new areas of computerisation due to the need to interlink with existing systems equipment.
- There is a perpetual change in products coming from the manufacturer. You do something, and then find you could have bought a product to do the self-same thing.
- There is perpetual change in our business. Maintaining systems to keep up with this is difficult. Then there is the cost and justification of doing new things a new way.
- We don't have a sufficiently high level of understanding of the changes which are needed to modernise systems. This shows in how we set about new systems generally.
- Time is the constraint. To set up new large-scale projects in government we have need of certain infrastructure (or enabling) systems, which are themselves big projects and therefore take time to accomplish.
- It's the cost of keeping up with the latest developments, particularly for giving people the smaller micro systems and terminals. Everyone wants the latest thing.
- Demands made on staff (qualifications, etc.) are too high. They can't keep up.

2. INTEGRATION OF SYSTEMS

- Before the days of distributed, telecommunications-based systems, FM was conceived as the management of a facility or EDP centre in an easily identifiable location.

- Centralisation of systems and data has evolved through several phases since then, with distributed processing, integrated or distributed databases, and micro-to-mainframe links having succeeded each other over the years as the industry's 'height of fashion'.

- FM has become harder to identify with the running of all of a user's applications in the more complex environment of the 1980s. Hence, the degree of integration of systems in terms of database structure and network linkage is relevant to the ability of the third-party FM supplier to undertake a significant slice of the user's workload.

- INPUT found only a moderate measure of integration to be practised in all three countries surveyed.

- On a scale of 1 to 4, where 1 was complete integration and 4 none, two averages of 2.5 and one of 2.4 were reported. In contrast to the other two countries, in West Germany the subject of integration was an issue of interest, drawing comments from all but two respondents.

3. MULTI-SUPPLIER ENVIRONMENT

- As well as handling responsibility for hardware and software, the information systems manager or his superior at board level must now take under their wing the responsibility for office automation and computer communications.

- He has had to become accustomed to dealing with more major suppliers than previously, although he may still hanker for the comfort of an omni-competent hardware and software supplier.

- Some mainframe vendors have hit back with a policy called 'The Total Solution Company'; IBM has been wiser and turned to the VAR (Value Added Reseller) as a means of distributing products.

- The present trend is to favour a limited set of preferred suppliers in each of the four categories used, as illustrated in Exhibit IV-6, which registered just below 2 as the total European figure on a scale from 1 to 3.

- West Germany has a slightly more single-supplier tendency than the other two countries, and software is purchased from a significantly wider spread of suppliers than the other categories, with telecommunications being closest to the single-supplier status.

- Our analysis gave no indication as to whether or not users really wanted to be under the umbrella of a single-supplier for the sake of the feeling of security, but FM vendors should assess the power of adopting such a role when establishing their sales policies.

4. MAJOR UPGRADES AND FUTURE PLANS

- With product lifetimes being continually shortened over the course of the last decade, the opportunities for services vendors to approach users with major FM offerings will continue to appear more frequently.

- Exhibit IV-7 contains the upgrade histories of the sample in each country and overall. Sixty percent had achieved an upgrade over the last 18 months, and another 22% in the year prior to that. This indicates a mean lifetime between major changes of about 40 months, with much more frequent operating system updates interspersed.

EXHIBIT IV-6

PREVALENCE OF LIMITED SUPPLIER PURCHASING POLICIES

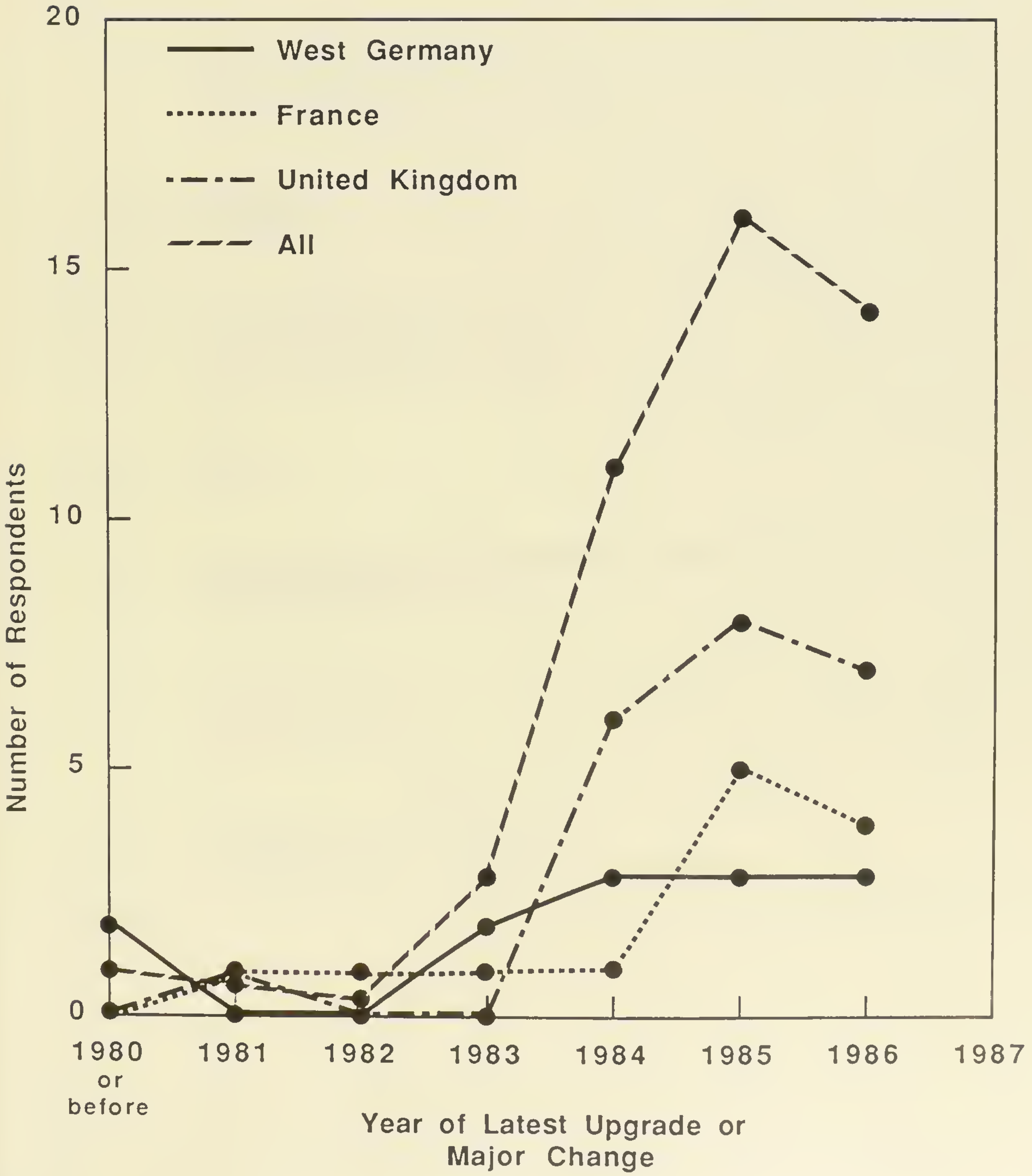
TYPE OF PURCHASE	NUMBER OF SUPPLIERS/USERS											
	1 = Single Supplier 2 = Limited Number 3 = Unlimited Number											
	West Germany			France			United Kingdom			All		
	1	2	3	1	2	3	1	2	3	1	2	3
DP Equipment	4	7	2	4	7	3	8	11	4	16	25	9
Office Automation Equipment	7	4	1	3	6	4	4	11	8	14	21	13
Software	-	6	7	-	4	10	7	6	10	7	16	27
Telecommunications Equipment	13	-	-	3	5	5	6	11	4	22	16	9
Other*	4	2	-	1	-	-	-	-	-	5	2	-
Overall	24	17	10	10	22	23	25	39	26	59	78	59
Total Number of Users †	13			14			23			50		

*Dealing rooms, embedded systems for production, and other specialist systems, which were excluded from the calculation of the overall rating.

†Not all categories were completed by all repondents.

EXHIBIT IV-7

DATING OF MAJOR SYSTEM UPGRADES



- When asked about future upgrade plans, 70% of respondents had some plans in the pipeline and 30% had not. In eight cases (16%), the plans involved both hardware and operating software.

- Exhibit IV-8 illustrates the evolution in usage of advanced networking techniques, showing the comparative favour in which LANs, packet-switched services, and videotex are held (50%, or just under, of users using them or planning to), as opposed to cellular and satellite communications (less than 15% of the sample involved or planning to be).

- Thirty-four new network projects were mentioned, while eight users (16%) were not involved in networking and 38% had no further plans. Users are principally concerned about improving efficiency in traditional data communications networking and are reluctant to be drawn into the untried areas. These areas are, therefore, more likely to offer business opportunities to the services vendors as external suppliers, rather than opening up as in-house options in the short-term.

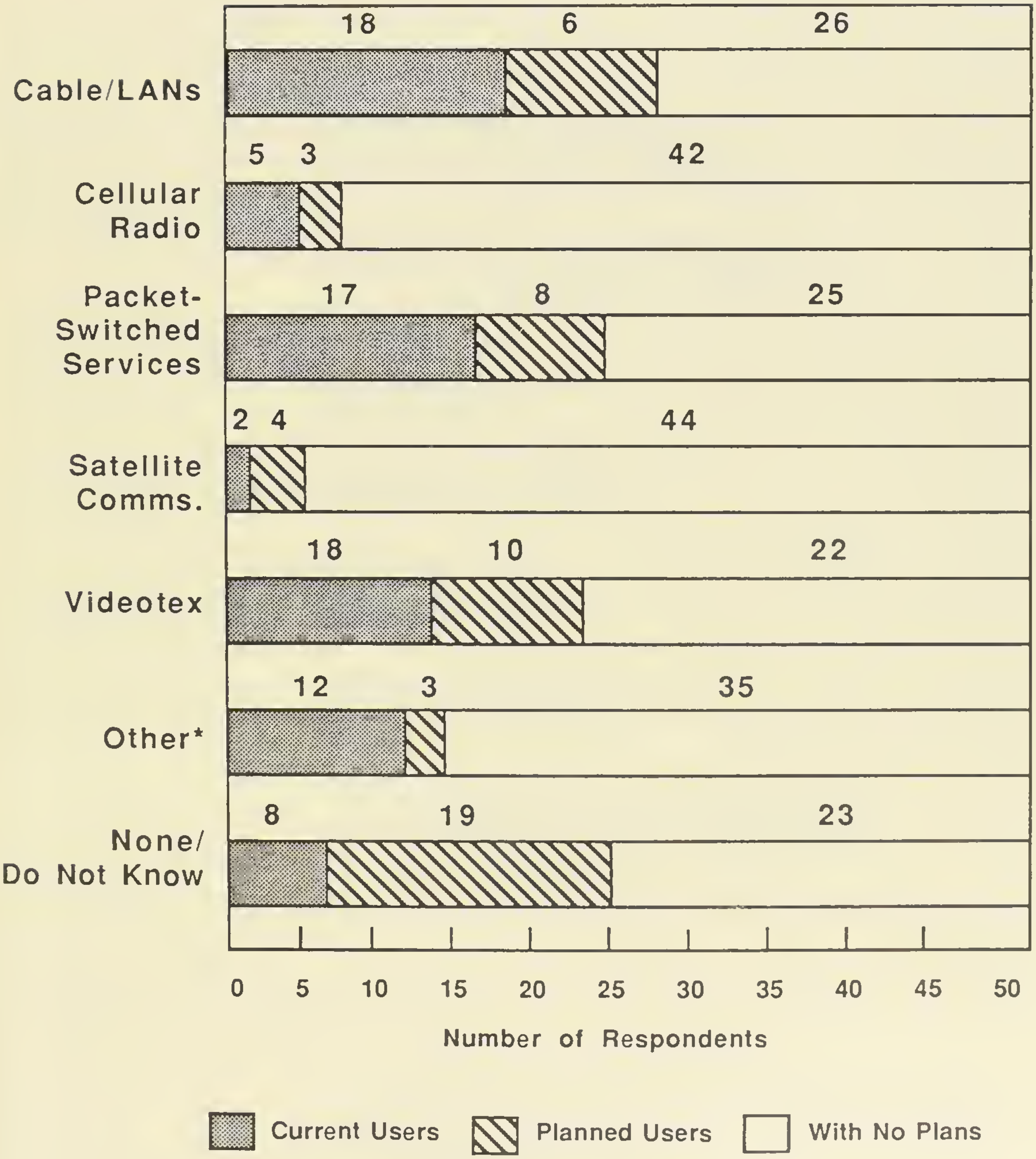
C. USER EXPERIENCE WITH THE FM SOLUTION

- Of the eight users who had past experience of FM, only two were current users. FM as a solution to a user's EDP management requirements is bound to suffer from a cyclic effect when put against the in-house option which is by far and away the preferred way of proceeding.

- It should not then be inferred from the figure quoted above that FM was only satisfactory in 25% of cases, rather that it was satisfactory enough in 25% of cases to overcome the limitation of it having been possibly a temporary need which it fulfilled.

EXHIBIT IV-8

USAGE OF NETWORK TECHNOLOGIES
Present and Future



* Private Telephone, ISDN, GEISCO, Teletex, some specialised networks

- In the following sections, we have analysed the elements of service provided to the 13 users who have contracted for FM and added comments in the same vein on two major public service organisations who responded and are interested enough in a future FM contract to have gone into the pros and cons in detail.

1. KEY ELEMENTS OF THE FM SERVICE

- Exhibit IV-9 illustrates the breakdown of the sample's actual FM contracts according to the major key elements in them.

- In just over one-half of the users, the work undertaken comprised the running of all of their applications, while a larger number (62% of the sample) had experience of FM on a major section of their workload but not on its entirety.

- For just under one quarter of the sample, the vendor had provided a dedicated machine on the vendor's own site. There is a distinct trend for such equipment to be user-owned and user-selected, but still sited on the vendor's premises.

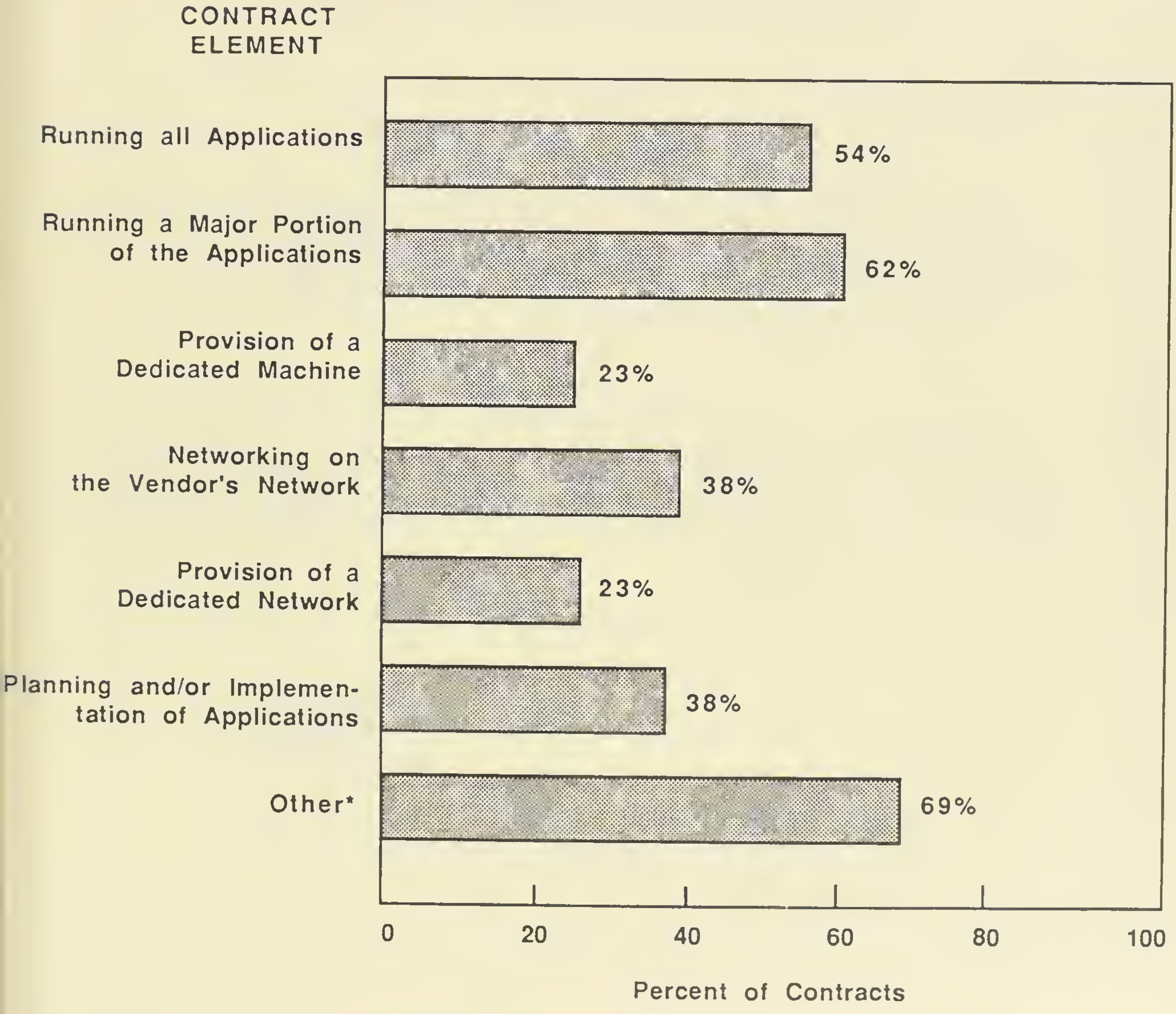
- West Germany had the highest percentage of FM for all applications but no dedicated machines on vendor site. A more traditional view of FM was discovered to exist in that country with the main mode of operation being to contract to run the processing on a user's site on his machine but using vendor-supplied staff.

- For 38% of users, networking was reported to have been provided by means of shared usage of vendor network facilities, and only in 23% of cases by provision of a partial or total dedicated network.

- According to many vendors (see Chapter V), networking is now being asked for as an integral part of the contract in the majority of situations.

EXHIBIT IV-9

KEY SERVICE ELEMENTS IN ACTUAL FM CONTRACTS OF THE USER SAMPLE



* Includes: Database Administration, Organisational Consulting, Production Automation, Technical Management, Operating Software Support, and Staff Training

- The planning and implementation of applications software is a minority activity. Thirty-eight percent of users reported that it had been a part of their contract. Support and specialist consulting activities on the other hand are relatively common, with almost 70% of users having used one or more services in this category.

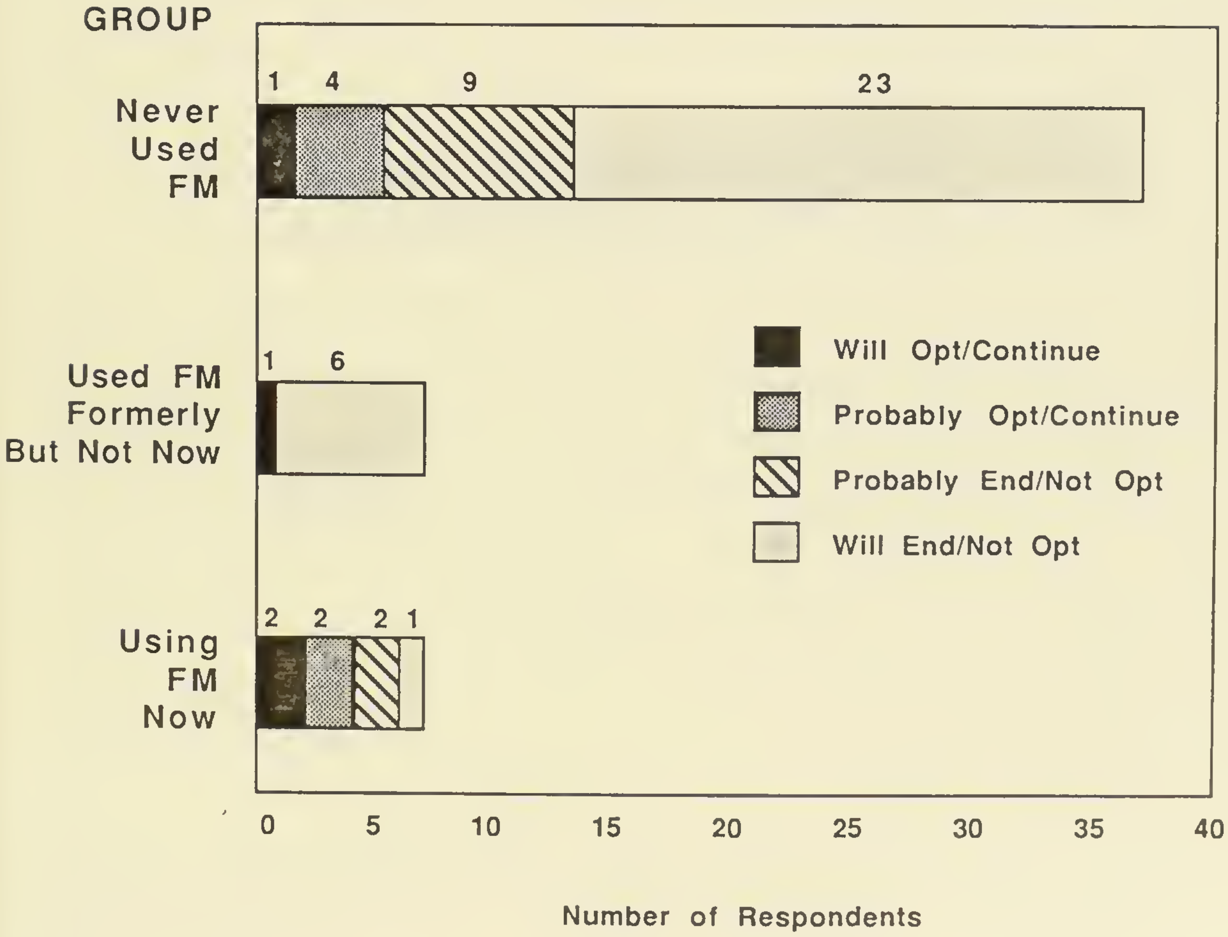
2. FUTURE PLANS

- The users divide naturally into three groups:
  - Those who have never used FM (the majority of 74%).
  - Those who have some former experience, sometimes not at all recent experience (12%).
  - Those who are currently using FM (14%).

- In broad terms, it is possible to categorise the answers to the questions on their future plans in a way which indicates whether they might opt for an FM solution at some future time. Exhibit IV-10 illustrates such an analysis comparing the three groups:
  - Only one of the non-users was enthusiastic for a move to FM.
  - Only two of the existing users would definitely renew existing contracts or at least continue with the FM solution, while one was sufficiently dissatisfied to be intent on going in-house next time, and the remainder expressed different levels of satisfaction and, therefore, possible renewal potential.
  - None of the former users had any intention of going back to FM.

EXHIBIT IV-10

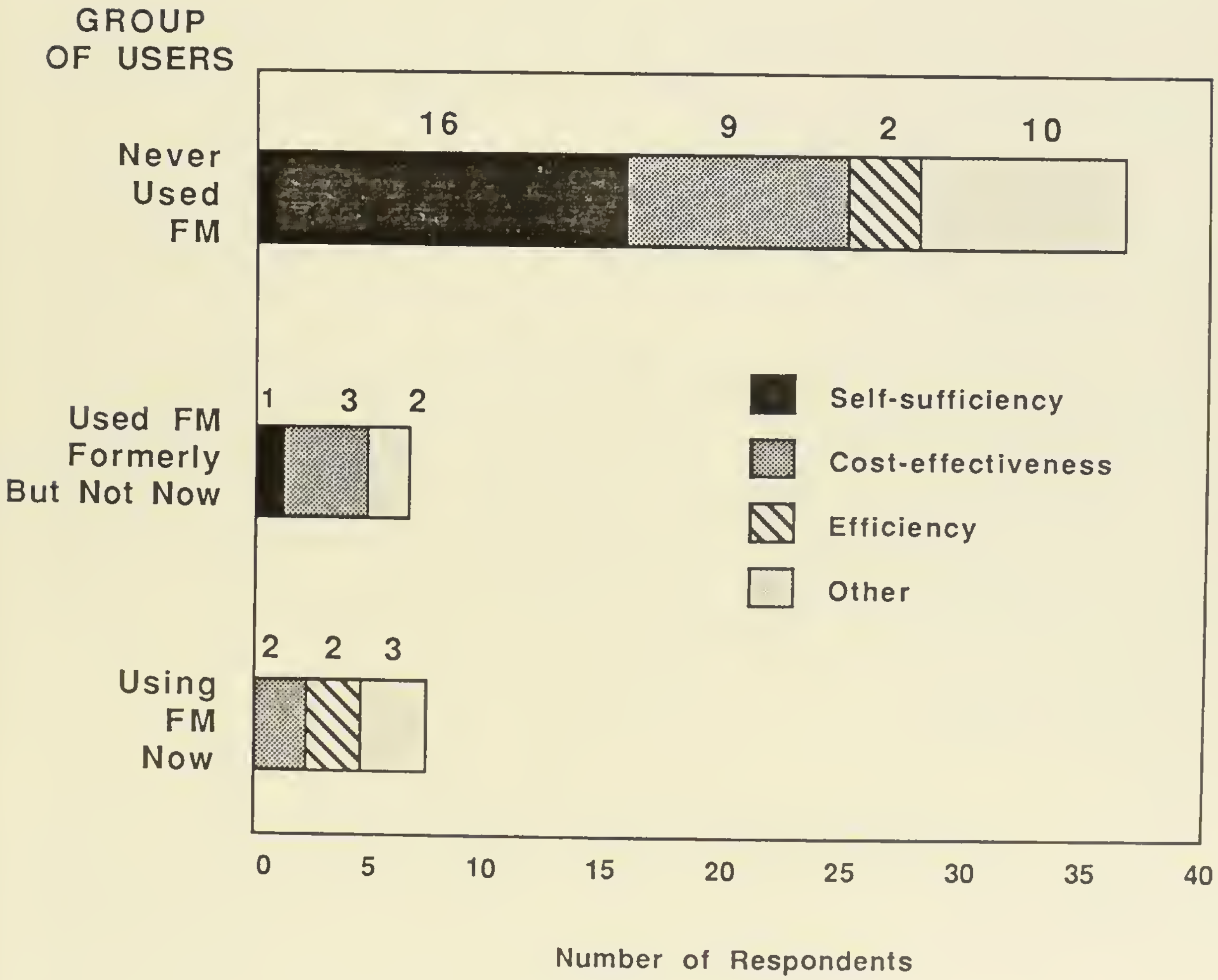
LIKELIHOOD OF CONTINUING/ENDING OR OPTING/NOT OPTING FOR FM CONTRACTS



- The main motivating factors are analysed in Exhibit IV-11, again across the same three groups.
    - Self-sufficiency of resources and expertise, allied to a policy of going in-house, stood out as the main inhibitor to the growth of FM.
    - This was followed in frequency of mention by the financial considerations, which worked both ways--non-users thought FM was an expensive option and satisfied users saw it as cheaper than the in-house solution.
    - Less quantifiable disadvantages and advantages were mentioned, particularly:
        - Efficiency and flexibility which both camps claimed for their chosen option.
        - Organisational and structural change which was the most frequently mentioned of the 'others' category. Again, this could be cited as an opportunity window for selecting FM but was more often given as a pretext for saying that FM did not suit a particular user's situation.
- The non-user who was about to implement an FM contract had chosen that route because the supplier was providing a fully integrated software suite to support his applications. This is an important reminder of how some branded 'added value' must be brought to market to allow a generic service such as FM to be sold effectively.
- A number of interestingly astringent comments are worth recording individually:
    - 'Useful for software development perhaps, but always under the close control of our company'.

EXHIBIT IV-11

REASONS FOR ADOPTING/NOT ADOPTING OR CONTINUING/ENDING AN FM CONTRACTS



  - 'You wouldn't contact an agency to supply a managing director on an hourly basis'.

  - 'We no longer have to worry about technological or logistical problems. Our FM contractor sees to all that'.

  - 'We shall probably terminate the arrangement. There are always arguments as to whose responsibility things belong'.

  - 'We would like to be in charge of our destiny'.

  - 'I wouldn't even look at FM services unless there was a dramatic cost saving indicated (up to 50%)'.

  - 'Looked at FM, but the supplier tried some back-stabbing with our holding company. He was thrown out on cost reasons'.

  - 'I would be worried about data protection and integrity of data files'.

- Two organisations who are seriously considering starting up with FM in the course of the next five years are both from cental government and have both multi-million dollar processing requirements. Their driving forces are:

  - Value for money for the taxpayer.

  - Lack of ability to move with the technology.

V ANALYSIS OF VENDOR ATTITUDES

V ANALYSIS OF VENDOR ATTITUDES

- Ten or 12 major supplier companies were approached in each of the four countries being researched. These companies were chosen because of their known significant presence in their respective computing services markets. Research also turned up one or two smaller specialist companies who have developed FM services, often in association with back-up and disaster recovery services.

- This chapter presents the analysis of the 27 full interviews taken from companies claiming to be active in offering an FM product line. They consisted of 5 British, 8 French, 12 Italian, and 2 U.S.-owned firms, but did not include any West German organisations.

- In West Germany none of the indigenous market leaders in computing services are active in the sector, and the country has, in consequence, the smallest market share among the major countries.

A. COMPOSITION OF THE SAMPLE

- Exhibit V-1 shows the breakdown between the companies by the sites of their European operations (i.e., the countries in which they were interviewed) and the presence or absence of an FM offering.

EXHIBIT V-1

PROFILE OF VENDOR INTERVIEW SAMPLE

PRESENCE/ ABSENCE OF AN OFFERING	EUROPEAN HEADQUARTERS IN:				Total
	France	Italy	United Kingdom	West Germany	
Suppliers of FM	7	8	7	-	22
Suppliers with No FM Offering	2	4	8	10	24
Total	9	12	15	10	46

- Twenty-two of the 46 firms researched offered facilities management services and were able to be analysed in full across all items of information gathered.

- The combined 1985 European revenues of these companies amounted to $1,150 million, which is equivalent to 9% of the computing services market in Western Europe. Similarly, their combined processing services revenues in Europe at $300 million accounted for 9% of the total revenues earned in the processing services sector.

- Most of the companies in this sample of 22 included FM as an element of their processing services revenues; however, a small minority (which included one or two of the very largest firms) thought that it had more in common with the professional services sector. One of the companies was in the habit of reporting on FM in a separate revenue class of its own.

- Taken together, the sample accounted for $137 million of FM revenues. The largest individual value (contributed by the European leader in the sector) was $31 million, whilst the smallest contributor mustered FM revenues under $100,000.

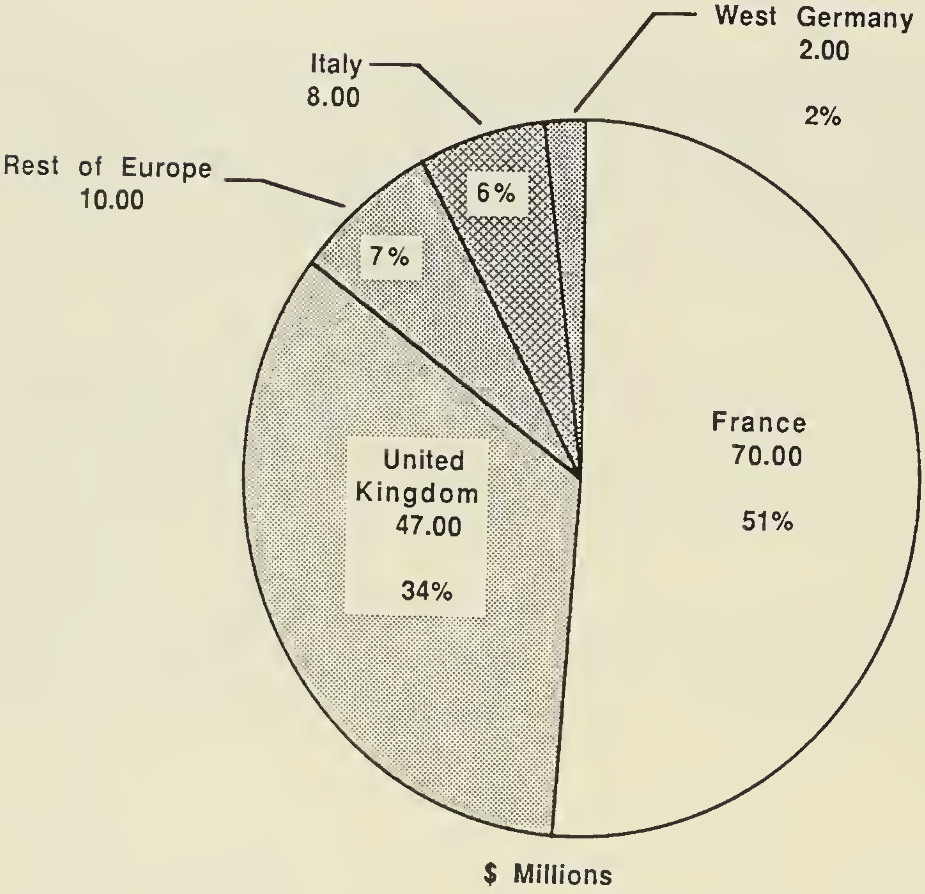
- With its overall total, the sample took some 50% of the 1985 European market. This was accomplished with a staff level of 21,000 personnel, of whom approximately one-quarter were engaged in FM directly, but not exclusively.

- Exhibit V-2 shows how the sample's FM revenues were split among the countries in which they were earned. The French market contribution was largest, but to a great extent this was due to France being the most concentrated market.

- Thus, with a small interview sample it is possible to encompass a large part of the French sector. Four vendors earned revenues outside their domestic markets, but only one claimed to be operating regionally; i.e., Europe-wide.

EXHIBIT V-2

THE 1985 FM REVENUES OF THE SAMPLE BY COUNTRY WHERE EARNED



B. IMPORTANCE OF FM AS A REVENUE SOURCE

- The sample divided roughly 60:40 between vendors who regarded FM as a minor activity and those who saw it as of major importance.

- Exhibit V-3 illustrates how the sample breaks down into four different ranges of FM revenue, measured as a percentage of total revenue. Fifteen percent was taken as the borderline between a major revenue element and a minor one.

- The significance of the chart is that both groups of vendors exhibited a future trend to increase their revenue percentage as an overall group. There was a net movement of respondents from those earning less than 5% to enter the class of the 5-15% range, and similarly for those earning less than 30% to earn more than 30% in the future.

- These net perceived future trends were reported in spite of the difficulties of marketing FM, of which many suppliers complained.

- Differences in the analysis between the three countries were noted:

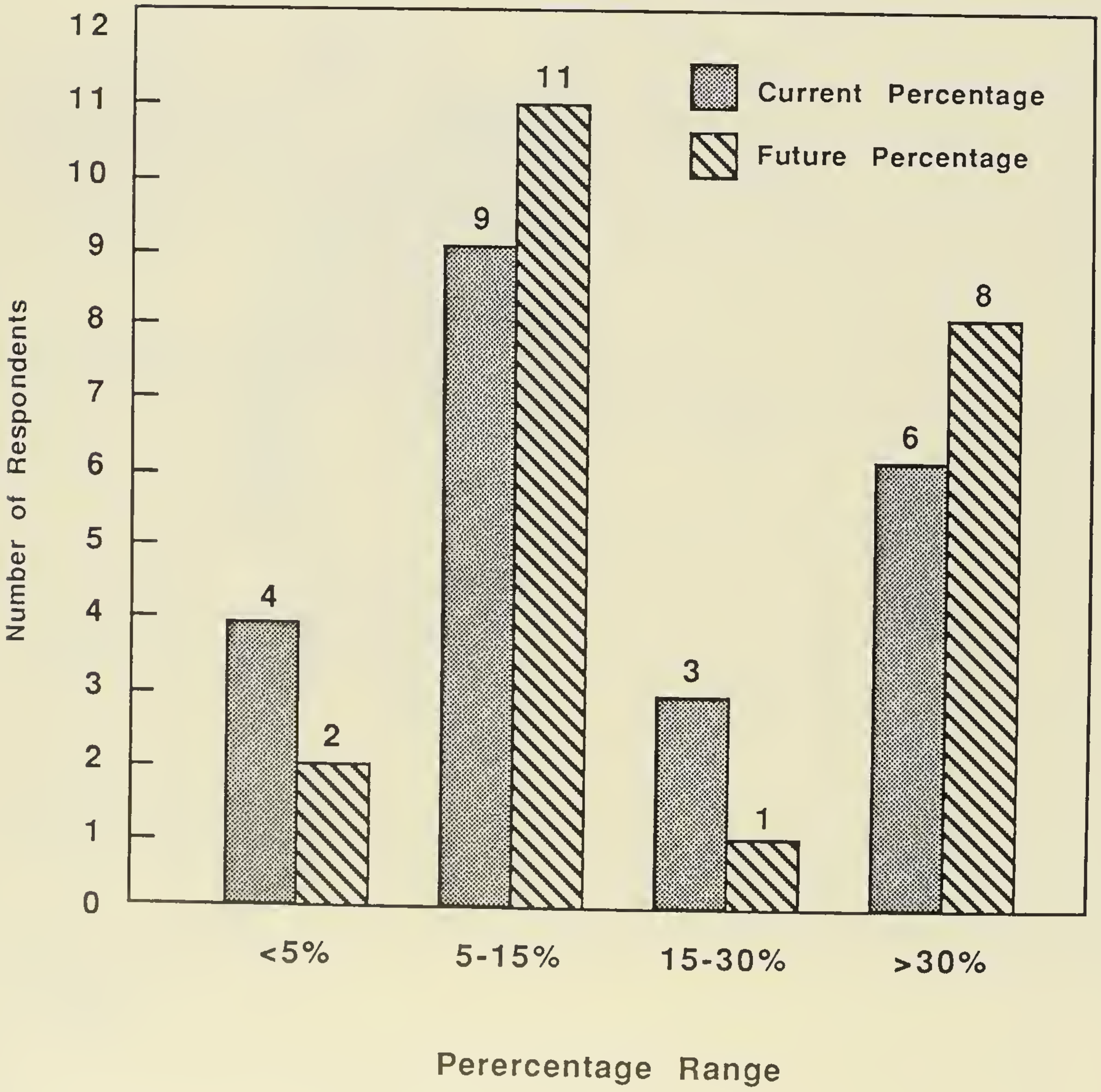
    - The U.K. had a majority in its sample of vendors for whom FM was a major revenue item, exhibiting a tendency for this market to throw up companies specialising in FM.

    - France and Italy both showed the reverse, with a minority regarding FM as important, but in both cases the perception was of a net increase in importance in the future.

- The top five FM revenue earners in the sample each gained more than $10 million in 1985 from their activities in this field. Of these companies, four out of five had constructed strategic slots in their product mix for their FM

EXHIBIT V-3

THE IMPORTANCE OF FM AS A REVENUE SOURCE CURRENT AND FUTURE PERCEIVED PERCENTAGES



offerings, and the fifth was in the course of doing so but was having difficulty in reconciling the FM concept, essentially a U.S. product notion, with its perception of the needs of its major European domestic market.

- With one or two exceptions, the rest of the sample was characterised by not seeing FM as a major plank in their strategies. Vendors usually had other preoccupations and saw FM as an opportunity market to be handled on an opportunistic basis.

- INPUT believes that this is usually an euphemism for saying that it is a sector of low priority when it comes to the question of allocating adequate investment resources. However, investment can only be made on the basis of a coherent market strategy, i.e., the strategy horse must come before the investment cart.

- The U.K. market leader, Hoskyns, is well known through its publicity for having a two-pronged strategy for the FM marketplace:

    - FM can assist organisations in 'the management of change', either in a commercial or business sense of the word change or in the technological sense of allowing a company to make a quantum leap in its use of information and information systems.

    - FM is itself an 'alternative computing strategy'.

- The French market leader, Telesystemes, places FM, viewed as a more mature market sector in that country, as one among five aspects of computing which it pursues. It is, however, still the largest contributor to the company's revenues.

- Comshare is unusual in pursuing a specialist role in FM, that of managing/providing an organisation's information centre (as that phrase is understood among the IBM user community).

C. PERCEPTIONS OF SECTOR GROWTH

- It was difficult to obtain quantitative market growth estimates from the vendors. Most were only able to speak from their own experience and had only a general feel for the situation. The breakdown of responses to the question on whether there was growth currently to be had in the sector was as follows:

    - U.K. - five suppliers said yes, there was growth, and two said they were looking at a fairly flat situation, at least over the last two years.

    - France - five again said yes, while two saw no growth.

    - Italy - where suppliers felt it was a difficult market to operate in, as many as four said that there was growth, whereas three thought there was not and in particular cited the current trend towards provision of in-house software tools as being the principal countervailing fashion.

- A key remark was made by one of the less bullish U.K. vendors:

    - 'The onus is on the industry (the computing services suppliers, he meant) to sell the opportunities that exist'.

- At the other end of the spectrum, an optimistic vendor saw FM as being to the late 1980s what timesharing was to the early 1970s. All large organisations would consider it for at least a portion of their workload.

D. EVOLUTION OF VENDOR FM SERVICES

- The earliest vendors had been in the market for 16 years, and the most recent entrant for only 18 months. One respondent expected to launch a product sometime in 1987. Exhibit V-4 charts the dates of entry of the sample's members. It shows a roughly double-peaked shape:

  - French vendors tend to have entered in the early or mid-1970s, i.e., in the first wave.

  - U.K. vendors have mostly come into the market in the last five years, during the second wave.

  - Italian vendors are more evenly spread between the two.

- The main way in which FM offerings have altered over the last 15 years is in the addition of networking to the product catalogue. All vendors were agreed on this.

- In France, some of the more recent market entrants have moved into the sector, subsequent to and as a complement to providing a back-up and disaster recovery service.

- Other changes which were noted were:

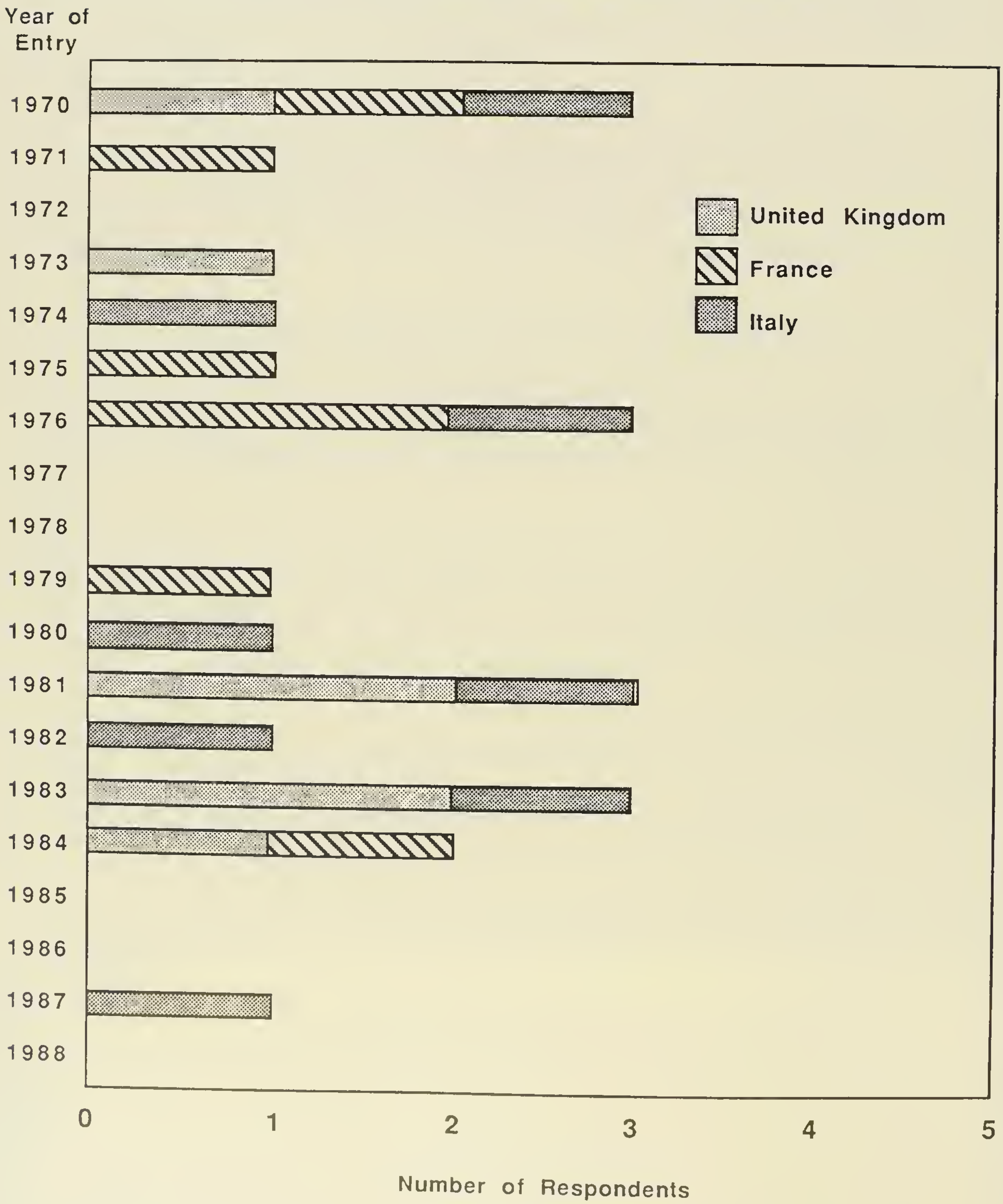
  - Emphasis being placed more on helping the user's business and less on the technology.

  - Inclusion of multi-manufacturer capability.

  - Addition of the virtual machine concept (including an FM client on a shared machine) both at mainframe and supermini levels.

EXHIBIT V-4

DATING OF VENDOR FM MARKET ENTRIES



  - System development contract moving naturally on into the running of the production system for a contracted period.

  - The early beginnings of an industry-specific orientation.

- Only two out of the 22 suppliers provided industry-specific services, one to distribution companies for EFT/POS, the other a general FM service to local government. The rest of the respondents stated that the services were totally tailored to the individual situation, with flexibility a major selling point.

- Four U.K. suppliers market under a specific brand name for their service. Otherwise, the service is marketed and sold as one capability among the overall product capabilities on offer.

- This generic nature of FM is a key characteristic militating against its easy marketability. It must be a priority objective of suppliers who wish to adopt FM as a long-term market to bring more focused services to the marketplace. At present, there is virtually no horizontal nor vertical specialisation in offerings already in place.

- Over the previous decade and a half, suppliers active in the FM sector have come to know the limitations of the original concept, the extent to which it can be acceptable to users, and the correct positioning of the interfaces between the user and his supplier.

- Exhibit V-5 lists some of the comments elicited from respondents on the subject of how comprehensive their facilities offerings could and should be.

EXHIBIT V-5

VENDOR COMMENTS ON THE SCOPE OF THEIR RESPONSIBILITIES

- Our contract can be as comprehensive as you like. This means covering a full spectrum: with a total resource capability at one end, and a single application function at the other.
- Can be comprehensive, covering PCs and business graphics, and application software too if PCs are being used for Decision Support applications.
- The user must submit his own batch work remotely and be responsible for its quality.
- Barriers can arise if duties are split unnaturally, e.g., if system software support goes to a third-party software house.
- One of our strengths is that we are prepared to take on the user's staff and his premises, and also assume the transfer of his budget and assets.
- It is not our objective to take over everything. What is paramount is to work as a partner with the customer. Hence the need to work out a team structure for each situation.
- Everything can be contracted to us. On the other hand, many clients only want computer power.
- The provision of back-up services is a natural accompaniment.

E. FEATURES OF SERVICE OFFERINGS

- Three major questions were examined in relation to the opportunity trends exhibited by the way FM is evolving in answer to user needs:

  - How necessary is it for a user to submit the totality of his operation to the FM solution, and how frequent is it in practice?

  - How important is networking?

  - Is a professional services component essential or merely desirable?

- Exhibit V-6 presents the analysis of the key elements currently included in the 130 ongoing contracts of the vendors interviewed and sheds light on these aspects.

  - In almost 50% of cases, the contract is for less than the totality of a user's computing. Although these cases are for the smaller value contracts (one vendor reckoned that he obtained 75% of FM revenues from contracts where he did everything for a customer and only 25% for partial processing projects), they nevertheless represent a volume market potential which should have the advantages which go with volume.

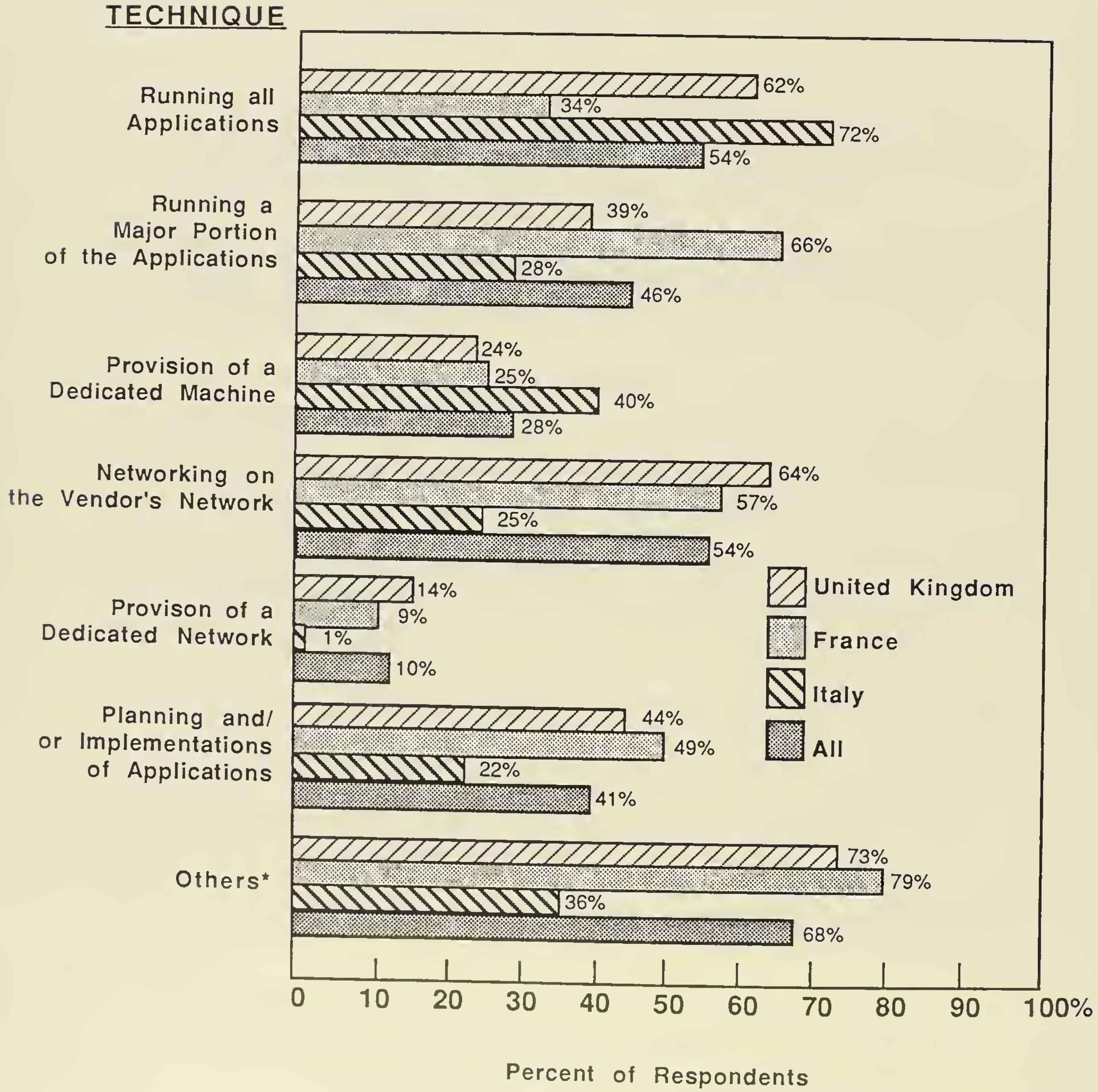
  - In less than 30% of cases is a dedicated machine provided, but the cases where it is are the most lucrative in terms of contract size.

  - Networking is now included in over 50% of the contracts. A dedicated network is only needed in 10%.

  - Inclusion of application systems and professional services to plan and implement them, remains a strong minority element with over 40% of the contracts running now covering these aspects.

EXHIBIT V-6

KEY SERVICE ELEMENTS IN FM CONTRACTS OF THE VENDOR SAMPLE



* Includes: OP System Support, Capacity Planning, Hardware Maintenance, Disaster Recovery via a Network, File Conversion and Set-up, etc.

  - The range of auxiliary services cited by respondents was extensive and applied in almost 70% of cases.

- Country differences were exhibited, with:

  - Italy concentrating on undertaking all user operations with little networking or software.

  - France, as befits the European leader in processing services, majoring on the networked provision of FM supporting partial user operations which had been application-implemented by the vendor.

  - The U.K. following the French pattern but with a greater emphasis on undertaking all of a user's applications.

F. FEATURES OF CONTRACTS

I. CONTRACT VALUE

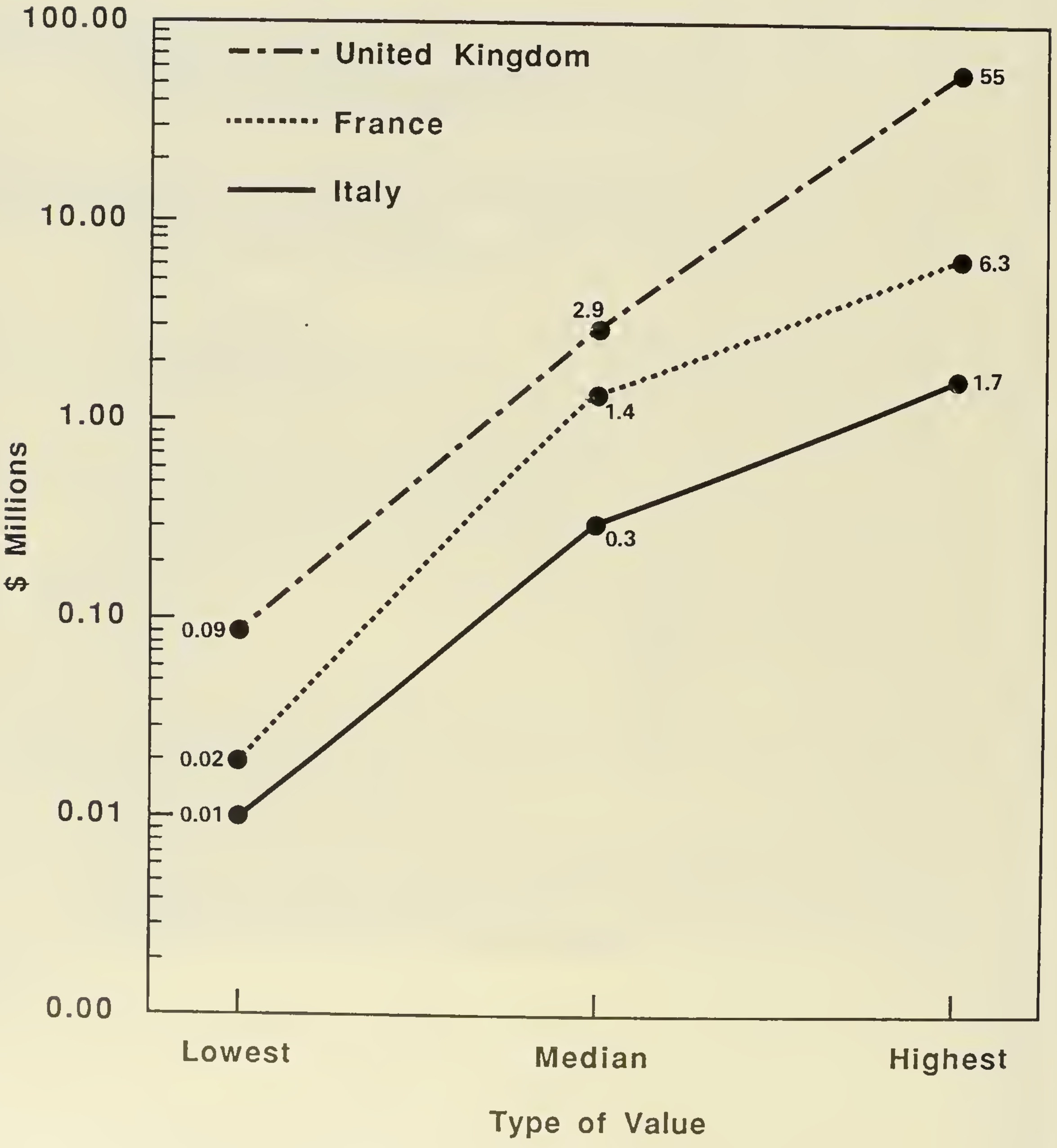
- Of the 130 contracts covered by the sample, 60 were in the U.K., 45 in France, and 25 in Italy.

- Contracts varied in annual value by at least two orders of magnitude in each country and by more than three orders of magnitude across Europe, indicating an enormous range of possibilities all covered by the same definition. The lower and upper limits, plus the most frequent 'average' values encountered, are plotted on the chart in Exhibit V-7 in a semi-log format.

- France and the U.K. have very similar profiles. Italy is a whole order of magnitude smaller in value due to the smaller company size and the more regional nature of the FM sector in that country.

EXHIBIT V-7

RANGE OF CONTRACT VALUES AS REPORTED BY VENDORS



- One company quoted the cost of running an IBM 4381 as the typical annual FM contract price.

2. CONTRACT DURATION

- The analysis of contract duration shows much less variation between countries, with four years being the average of the most frequently quoted typical contract duration.

- Exhibit V-8 shows the upper, lower, and 'median' values in bar chart format.

3. CONTRACT RENEWAL

- Contracts develop in a small number of different ways:

  - 'Users often move up the spectrum, starting with implementation of a single application on our network and moving up to a full function multi-application FM after three or four years'.

  - 'It is our policy to move user site-based machines onto our network complex over a period of time'.

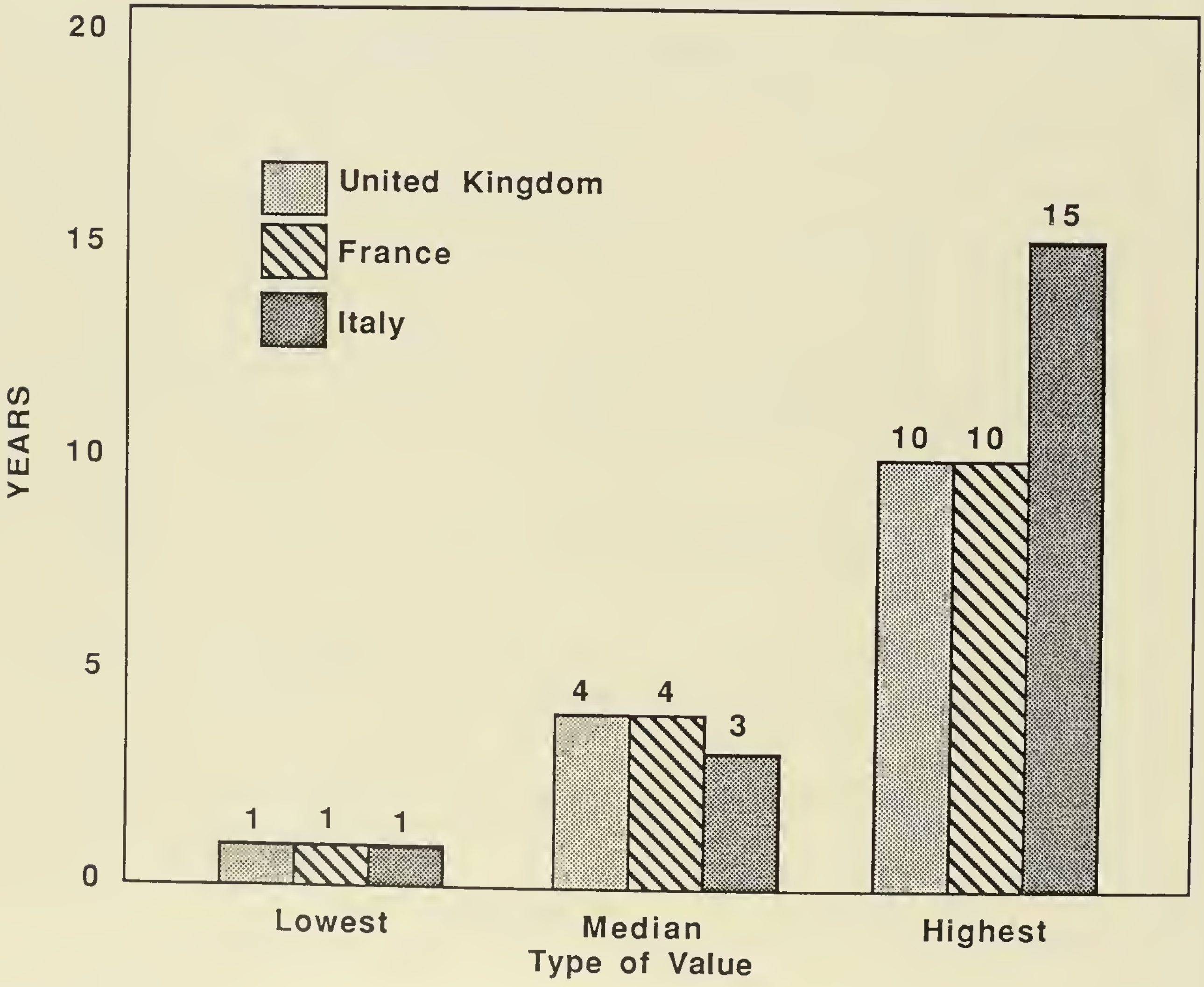
  - 'If we are going to lose a customer, there is a formal transition period when we recruit and train staff for a customer going in-house'.

  - 'One customer opened up a second machine centre with us after two years. It was cheaper to get backup and security from his FM contractor.

  - 'Most of our customers have gone in-house if they grew beyond a certain point which they perceived as being large enough for it to be more economic for them to do things themselves'.

EXHIBIT V-8

RANGE OF CONTRACT DURATIONS AS REPORTED BY VENDORS



  - 'We have never yet failed to get a customer to renew'.

  - 'A customer may leave us to move to a non-stop machine network which he wants to run in-house, as applications become more critical'.

- Exhibit V-9 summarises the analyses of the contract renewal options which were posed to respondents. The options were cited as those most frequently encountered by suppliers.

- In-house is the most likely end point, but the length of some contracts in the business has been remarkable in the experience of many vendors.

- The nil value for contract loss to competitors highlights the nature of European FM, which prompted some interviewees to say that it did not amount to a real market in that movement of customers between different players was virtually unknown.

G. MARKETING FM

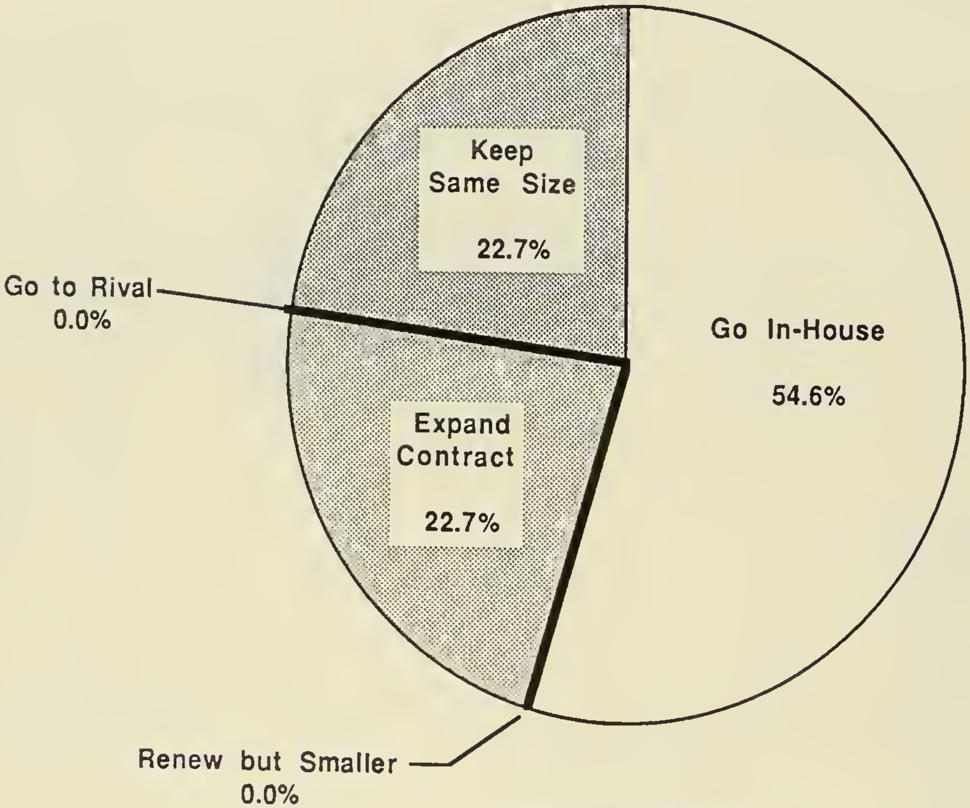
- Suppliers had only vague notions of market sizes in their own domestic markets and practically no feel for Europe as a whole. There were exceptions, of course.

- Growth rates were equally unclear, although most vendors thought their domestic markets were expanding but had only the evidence of their own performances to go on.

- The effort being put into marketing varied considerably according to whether the market was being actively pursued or merely included on an opportunity basis. Policies in force included:

EXHIBIT V-9

VENDOR PERCEPTIONS OF CONTRACT RENEWAL HISTORIES



Percent of Sample

  - Selling with a special sales force, usually of trained business consultants together with the senior management.

  - Using the whole sales force as a first-time prospecting service and handling qualified leads with senior management and technical staff.

  - Using direct mail or other direct selling techniques to initiate leads and then follow-up using a select group of senior people.

  - Reacting with management and sales resources on an ad hoc basis as opportunities present themselves.

- Only five suppliers use the first of these methods, fielding a dedicated sales team. The majority tended to be reactive and not proactive in their approaches. This was a matter for concern in some cases where vendors had identified a market in principle but did not know how to go after it.

- Exhibit V-10 tabulates the size of the sample's sales forces, broken down by country. Except for the French vendors, the FM selling is producing a lower yield per salesman, indicating the dilution of effort which stems from involving the whole sales force in prospecting.

- INPUT recommends that suppliers decide either to go for the FM opportunities, which do exist, in an aggressive, professional way or get out of the market and concentrate sales resources on selected strategic options. Now is the time to decide on commitment or withdrawal, since the market has matured to a point where continued commitment requires investment.

- Exhibit V-11 illustrates the usage of the different marketing methods as practised by the vendor sample. The picture of an undernourished market is confirmed by the pattern of usage of the various techniques, particularly the low level of FM-specific brochures in France and Italy.

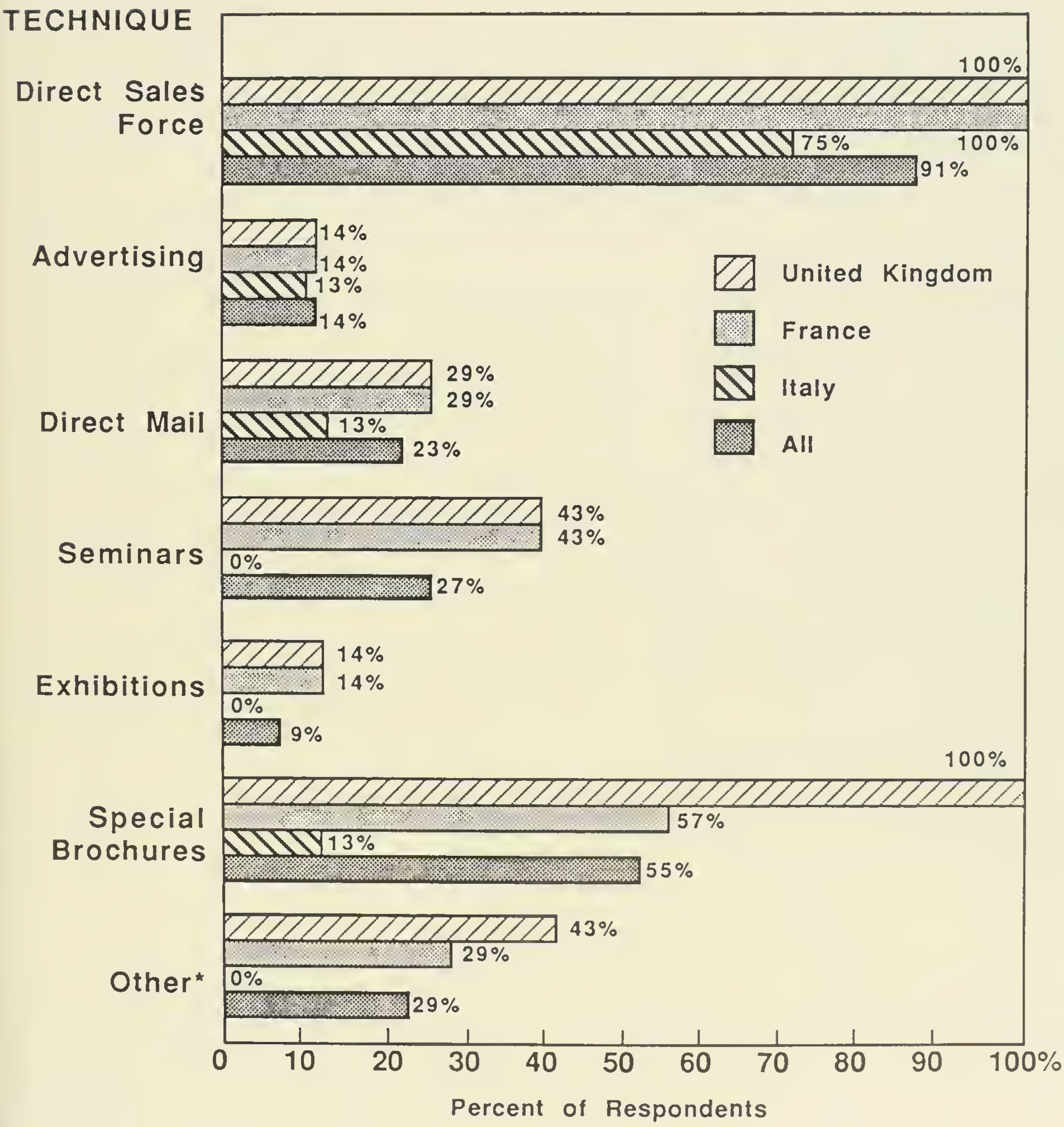
EXHIBIT V-10

SOME SALES STATISTICS OF THE VENDOR SAMPLE

Country	European Employees	European Revenues		Number in Sales Force			Ratios		
		Total Noncaptive Calendar 1985 ($ Millions)	Facilities Management Calendar 1985 ($ Millions)	Over-all	Facilities Management	Facilities Management as a Percent of Overall	Noncaptive Revenues per Head Total Sales Force ($ Millions)	Facilities Management Revenues per Head Facilities Management Sales Force ($ Millions)	Total Sales Force as a Percent of All Employees
United Kingdom Total	8,166	$378.5	$59.3	587	250	42.6%	$0.6	$0.2	7.2%
France Total	11,500	$715.9	$71.4	851	43	5.1%	$0.8	$1.7	7.4%
Italy Total	1,283	$62.8	$6.1	102	78	76.5%	$0.6	$0.1	8.0%
Grand Total	20,949	$1,157.2	$136.8	1,540	371	24.1%	$0.8	$0.4	7.4%

EXHIBIT V-11

MARKETING METHODS/TECHNIQUES USED BY THE VENDOR SAMPLE



* Includes: Telephone Sales, PR, Press Survey

- Small use of advertising, exhibitions, and seminars points to a defensive, half-hearted, and generally unplanned approach to the whole concept.

VI DEVELOPING THE OPPORTUNITIES

VI DEVELOPING THE OPPORTUNITIES

A. THE STRATEGIC CONTEXT

- The strategic context, within which computing services are currently looking for market opportunities, is ripe for the development of FM, but the whole problem of marketing FM must be considered in a strategic light. This will involve serious examination of vendors' overall marketing thrusts in order to establish a strategic service mix into which FM fits as a central plank.

- INPUT believes that the trend is in favour of FM gaining a larger share of overall computing services revenues because:

  - The technological convergence of EDP, telecommunications, and office automation has meant that only powerful companies with a broad range of skills in these areas are able to steer the large users in strategic directions.

  - The FM suppliers have developed these necessary skills.

  - The users are asking for help in increasingly sophisticated areas.

  - The hardware manufacturers are overstretched to supply users' support requirements.

  - IBM itself has signalled that it is unwilling to supply the totality of user needs (no matter how much users cling to Big Blue for shelter) by its policy of actively working with the computing services community.

- Certain hardware suppliers have attempted to meet the challenges of the current environment by developing as 'total solution' providers. These suppliers have not met with success (Hewlett-Packard, as a leading advocate of the 'total solution' approach, is a case in point) because of the basic dedication to hardware which is implied by manufacturer status and the consequent lack of flexibility which runs counter to providing the individual the service a user requires.

- The challenge to the FM supplier is to become the natural first port of call for users wanting information systems of all sorts. How those information systems are developed and delivered is secondary, once the tender document has come into the hands of the FM vendor who wishes to service a user's need. What is important is to be on the tender list alongside the hardware suppliers.

- This means ousting the hardware suppliers from the number one position in the eyes of the user. Nothing less than this is going to raise the level of FM revenues above the 1% of total computing services revenues which they currently occupy in Europe.

- Such a demanding challenge can only be met on a long-term strategic plane and accompanied by detailed plans with which to control vendor expansion with profit.

B. OPPORTUNITY LEVEL REPRESENTED BY THE FORECASTS

- Computing services vendors have traditionally seen themselves as an auxiliary to the EDP user, playing a secondary role to the hardware suppliers who have been larger and thus possessed of more commercial clout. They have been the followers, not the leaders.

- This has meant that as technology introduces new types of solutions, these suppliers have diversified with the trends:

  - Into turnkey systems as hardware became less costly.

  - Into software products as people costs started to make tailored software too expensive for many users.

- Bureau vendors and FM suppliers with them have undergone a number of generations of product line:

  - Initially, the processing services provider was offering a discrete low-level service to a host of smaller companies who could not afford their own equipment. This was a volume business with the security and assured profit level that entailed.

  - When the minicomputer and later the 4300 and the microcomputer eroded this volume customer base, the bureau turned to the large customer for provision of specialist service activities, e.g., financial planning, cash management, network services.

- This has led processing services and FM to become account selling-oriented, but they should still be on the lookout for further volume market opportunities.

- Theoretically, FM represents such an opportunity because any user of a machine of the size of an IBM 4300 and over is a potential customer for FM (there are at least 15,000 such systems in Europe). There are, we all know, formidable barriers, however.

- One vendor who recognised this potential said, 'But the explosion has not yet come'.

- INPUT's forecasts contained in Chapter III are based upon the user and vendor reactions encountered in this survey. They do not take into account the possibility of an explosion in demand. Rather, they reflect the level of confidence expressed in current market activities and have been tempered by knowledge of the extent of user fears which may be provoked by consideration of the FM possibility.

- However, INPUT does not discount the possibility of FM becoming very fashionable, particularly if the market remains so technologically volatile. The following sections in this chapter are provided as notes to enable suppliers to:

  - Take advantage of existing opportunities.

  - Maximise the possibility of coping with an avalanche of FM enquiries, should this occur.

- Exhibit VI-1 lists some of the vendor sample's current plans for capitalising on the individual opportunities they foresee:

- In general, the plans are characterised by being:

  - Not industry-specific.

  - Niche-oriented.

EXHIBIT VI-1

VENDOR PLANS TO CAPITALISE ON OPPORTUNITIES

- We want to persuade users to invest in their computing and telecommunications infrastructures. (Most companies are woefully undercapitalised in IT). This means building up strategic business relationships.

- Our policy is to maintain the on-line capacity and availability, and to offer fixed prices. In three years from now we will probably be building another data centre

- It is easier to sell FM on the back of migration. To that extent it is an IBM product driven sector.

- It is getting more difficult and more expensive to run big IBM systems. We intend to maintain our resources in this area and ensure they all hang together as a management capability.

- We will capitalise on the introduction of new technologies, - networking, non-stop systems, new storage devices - we will use FM as a means of offering users a bridge into these new areas.

- We score by offering a consultancy front-end to establish the most appropriate solution.

- We keep up a capability on the three major hardware vendors.

- Telematique and the provision of host facilities for serveurs is the big opportunity market in France.

- We must invest in purpose-built DP centres with all the latest facilities.

- Passive, in that they rely on product investment without mention of market availability and selling intent.

- Computing services in general have become much more industry-targeted over the last five years. FM lags in this respect.

- Many vendors expressed difficulty in finding specific enough targets for their FM markets. The problem is to find ways of making FM less generic.

C. MAXIMISING ON THE OPPORTUNITIES

- Europe exhibits four major country markets which are at different stages of development in the usage of processing services. This affects the policies which should be adopted by FM vendors, current or future.

  - West German computing service suppliers have volume customer bases in the high hundreds and sometimes even into several thousands of customers, even without a coverage of the whole country (many suppliers concentrate on one, two, or three regions only).

  - Italian suppliers have smaller customer bases but are still high considering they also tend to be concentrated in geographic regions.

  - French suppliers, being the largest of their kind in Europe, still retain an aspect of a volume customer base, although several have deliberately diversified away from selling processing services into a volume customer base and into the supply of implementation services to a large account type of clientele. They, therefore, show more variation in business style between divisions of their organisations.

  - The U.K. suppliers have the smaller customer bases. It is usual to think of the mid to high hundreds as a good customer base size even for the 'top ten' vendor class.

- These differences should affect vendors' choices as to which are the most suitable segment(s) of FM to pursue. This could involve closing down active marketing in the non-selected segment(s), though of course maintaining operation, support, and training activities beyond the end of any ongoing contracts.

- Exhibit VI-2 gives an analysis of the type of product marketing plans which suppliers are currently formulating for their FM activities. If it is remembered that a developing market has three stages to the product planning of its market entry--

  - First, produce a quality product which meets the market needs.

  - Secondly, prepare the market to receive the product using all the modern aids at your disposal--advertising, direct selling, literature, etc.

  - Thirdly, sell aggressively with proper after-sales support in place--

  vendors should be able to examine their product planning functions to see how far down this line they have progressed. It may even be necessary to backtrack to an earlier stage if it has not been completed satisfactorily and is undermining current work. For example, how many FM suppliers are currently selling with adequate brochures describing and selling the FM product line? Or again, how many suppliers have bothered to look for market segments, and how many are relying on temporary niche markets to slide them into the big time in FM without any real investment?

EXHIBIT VI-2

CATEGORISATION OF VENDORS' PRODUCT PLANNING
(BY NUMBER OF MENTIONS)

TYPE OF STRATEGY	COUNTRY			All
	United Kingdom	France	Italy	
Pursue a Specialty Market	1	$\boxed{2}$	2	5
Maintain Investment in DP Centers	-	1	$\boxed{4}$	5
Follow IBM Migration Paths	$\boxed{3}$	1	-	4
Establish "Partner" Relationship with User	2	1	-	3
Piggyback on "New Technologies"	1	1	-	2
Maintain Reputation for Quality	-	1	-	1
No Plans/Remain Opportunistic	-	1	2	3
All	7	8	8	23

- INPUT sees no benefit in remaining with an opportunistic or passive approach to FM. The time has been reached when positive and aggressive marketing measures are starting to have the right effect in stimulating market interest. The 'wait and see' option is closing off in favour of some hard decisions--in or out.

I. FOSTERING A REMOTE FM STRATEGY

- The Remote FM strategy applies in countries where reasonably priced and effective telecommunications services are available whether from the PTT directly or via a private or commercial value-added network.

- It is most applicable to organisations with a dispersed structure who are likely to incur high or moderately high data communications cost whether their mainframes are on company-owned locations or housed on, third-party premises.

- Remote FM consists of the FM supplier hosting the customer's applications on his own (the vendor's) machines in a shared or a dedicated mode. The FM supplier is then becoming the equivalent of the operations department in an in-house solution environment. The customer retains responsibility for planning, systems, and development work. Being relieved of the constant worry of operations, he can devote more time to the real problems of applying future technology to the profitable running of his business.

- This strategy is applicable to any young fast-growing organisation in which structures have not had time to become ossified.

- It should be targeted at the medium to large and small systems segments where the volume of users for a semi-standardised, clearly defined offering is potentially high.

- This service has the added very powerful advantage and selling point that it does not reduce the user's control over his systems and it may, if properly managed, very well increase it.

- There is no reason why the user cannot have his machine as a dedicated option for those who insist on it because of confidentiality or a plain, old-fashioned proprietorial instinct.

- The key to success is correct definition of the customer/FM vendor interface.

2. ON-LINE INFORMATION SERVICES

- Two types of service are required by customers in this field. These customers will be essentially obtained from the information provider community:

  - The first service is to provide mainframe host facilities under a long-term contract to a company with information to mount and spin over what is called the ASCII terminal world network. These contracts are usually large-scale database set-up projects and do not have a volume potential. They are less risky than involvement in speculative database spinning on the part of a processing services supplier.

  - The second type of service is similar but applies to the business of videotex information retrieval services. There are many organisations who wish to retail information and services over the French videotex network but do not have the technical expertise to mount the operation themselves. It is much simpler for them to approach a services vendor who can acquire hardware and provide software and an operating room environment as well as the wherewithall to connect the system to the national network and hence eventually the desired customers. Such a hardware and software system is called a Centre Serveur and is a small system FM solution.

- The market potential for these systems is in the high hundreds. The requirement does not yet exist in other countries but is most likely to follow in Italy in the second half of our forward period, i.e., on the 1989-1991 timeframe.

3. NETWORK MANAGEMENT

- This sector forms an overlap with the VANs marketplace but is differentiated from it by being sold for an individual user and not to a community of users.

- The major areas in which FM contracts will be awarded for network management are:

    - Electronic funds transfer (EFT) for financial organisations, banks, etc.

    - EFT/POS for distribution companies or for the distribution divisions of major industrial concerns such as occur in the energy industry.

- The contracts will be large to very large and are, therefore, only of interest to substantial vendors with the necessary financial resources behind them.

- The best way to win one of these contracts is to be engaged on the development of the system. Joint ventures and temporary arrangements with major software houses are needed to achieve this status. Many FM suppliers have strong systems capabilities in-house, but should think carefully before going it alone in this large-value contract business area.

- There will, however, be a trend towards 'implement and run' contracts, calling for the combined skills and track records of the systems house and the on-line bureau and network services vendor.

D. ACCOUNT SELLING TO INDUSTRY

- Exhibit IV-3 has indicated that although manufacturing concerns are or have been the most frequent users of the FM option, the banks may have contributed the greater revenue yields.

- Vendors were questioned about their perception of the future potential for FM among a broad grouping of user industries. These two industry groups were rated highly, but government was highest in France and Italy while banking and finance (no doubt influenced by the forthcoming deregulation of the London financial institutions) came top in the U.K.

- Vendors must leverage their experience in particular industries into the FM service offering:

    - Central and local government have both got industry-specific characteristic requirements for which experience in individual applications can contribute to the overall portfolio.

    - EFT applications can vary widely depending on the industry being serviced--petrol stations, in-store banking, ATM-linked applications, etc.

- Vendors must validate their justification to remain in or to enter afresh any FM industry sector by reference to the sum total of their past record of service to each industry in all application areas and in any type of contract.

- In other words, vendors must now apply all their marketing expertise to the FM sector if they wish to continue participation with future successes and profit.

VII MAJOR FM VENDORS

VII MAJOR FM VENDORS

A. GSI

1. BACKGROUND

- GSI is one of France's top six computing services suppliers with a strong pedigree in service bureau and network applications. It is part of the Alcatel electronics group, itself a part of the giant CGE company, France's largest group in the heavy electrical goods sector.

- GSI offers a strong catalogue of horizontal (functional) and vertical (industry-specific) applications services aimed at the business user:

  - Payroll and personnel, financial planning, production control, etc.

  - Automotive sector, tour operators, banking, insurance, transport, and market research services.

- FM is regarded as a 'transversal' service by GSI in that it cuts across all industries and all functional departments.

- GSI has a strong presence outside its domestic market with 3% of revenues in 1985 being derived in the U.S. and just under 30% in Europe outside France, so that almost one-third of the total 1985 revenue of 1,244 million francs came from overseas activities. This turnover was achieved with a staff complement of 2,350.

- FM accounted for some 200 million francs or 16% of the whole, making GSI France's number two in the field.

2. FM SERVICES

- To date GSI has followed a traditional pattern in its facilities management contracts. The principal element has been the taking on and the running of the computer operations for an existing installation. In some 50% of cases, this has meant the management of the totality of an enterprise's data processing. One of its largest and longest-running contracts has been with SERNAM, the arm of the SNCF which handles commercial road transport deliveries.

- Over 40 contracts have been undertaken over a period of the last 25 years, with contract values varying from three million francs to over 50 million and rising. Contract duration has been between four and six years, with an 18-month notice period being in force on both sides. Shorter contracts have happened, but this has usually been a sign of a less than happy customer relationship.

- In the majority of cases, systems development, consultancy, and operating system support has been an element in the service provided. In all cases, networking on the GSI network has also been involved.

3. MARKETING STRATEGY

- It has been GSI's aim during the course of the 1980s to develop clear strategic policies for marketing and internal relations:

  - At the end of the 1970s, GSI had grown very fast by acquisition and had gathered a rather disparate set of services without an identifiable focus. Over the last five years, developments have led to 70% of revenue now stemming from specialised services, well targeted at specific sectors.

  - Personnel policies have been revitalised to ensure that personal job fulfillment and career development is integral to achievement of company goals. 'A people-based organisation must work through its people and not in spite of them'.

- Current thinking has three strategic marketing axes:

  - Local area networks.

  - Videotex delivery.

  - Knowledge-based systems.

- These areas form GSI's involvement with advanced concepts and systems and ensure that its research keeps abreast of the latest technological developments.

- FM does not yet fit into the GSI strategy as a principal axis, but management is examining ways in which FM-type services could be developed to penetrate volume markets.

- With over 3,000 customers, GSI runs its business less as an account selling exercise than most major computing service groups. Industry sectors seen as best targets for FM are:

  - Service companies of all types, insurance and, possibly, government, though this last is thought to be not yet ready for the FM solution.

- The regular GSI salesforce of over 200 sales engineers is used as a means of identifying likely prospects for FM, which are then qualified and pursued by the director responsible with the help of a small nucleus of staff.

- In view of its past experience of long-term contracts, particularly for companies with declining revenues, GSI applies a strict methodology for qualifying prospects and weeding out those which are likely to prove unprofitable.

B. SLIGOS

I. BACKGROUND

- Sligos is one of the fastest growing of the major French computer services companies, having moved from revenues of 563 million francs in 1983 to 950 million in 1985 at an annual 30% rate of growth.

- With the Credit Lyonnais as a major shareholder, Sligos has always had an important part of its turnover coming from banking and financial applications. In particular, a number of important processing centres have been maintained for the running of these applications on a shared bureau basis, the best known of which has been the processing of the Carte Bleue transactions. Carte Bleue is France's credit card organisation which is affiliated to the International VISA system.

- This expertise of long standing in developing and running banking and credit card operations has led Sligos to have a well balanced mix of computing services with activities in processing (including manufacture and personalisation of standard credit cards and the new microprocessor-based smart cards), professional services, and turnkey systems based on business microcomputers.

- It was natural, therefore, that Sligos should be chosen as a prime contractor by the various consortia of French banks, which have been established to develop systems and applications to take advantage of the new technology associated with the microprocessor card, particularly payment systems based on the smart card and home banking and other videotex security systems.

- Sligos is now getting commissions for large-scale projects involved with private debit card systems for single customers in the distribution sector:

  - Shell France has installed a card-based payment system at 2,000 service and petrol stations which Sligos has designed, brought on stream, and is now running on one of its processing centre machine complexes.

2. FM SERVICES

- This type of large-scale contract for a new application which has never been implemented as an in-house system qualifies as an FM contract so long as it is installed for a single customer and run for a period of over one year on an all-in contract basis.

- Besides this new type of FM, which INPUT predicts will become more common over the next five years, Sligos offers computer room assistance services which include a number of the elements of the traditional FM deal:

  - Operator contract hire.

  - Systems software support.

  - Performance appraisal and improvement.

  - Complete running of EDP installations for any period over three months.

- Sligos earned over 20 million francs from these activities during calendar 1985. An individual contract for such a set of services may be as high in value as 31 million francs.

3. MARKETING STRATEGY

- Though Sligos would not consider itself to be in the FM business in the traditional sense, and although it has historically pursued volume markets and not stuck purely to large account selling, the company's overall strategy will lead to more large-term single customer transaction processing systems involving both initial implementation and operational management.

- In this, Sligos is something of a European pioneer in what is a new way of gaining large-scale services business in vertical market sectors.

- It will be necessary for the successful winning of such contracts for the company to maintain flexible human resourcing of projects in order to bring to bear the correct expertise at both the tendering and the operational stages.

C. TELESYSTEMES

1. BACKGROUND

- Telesystemes is a subsidiary of COGECOM, a French state holding company with interests in telecommunications equipment, cabling, and services.

- Telesystemes was founded in 1969, with an overall mission to operate in areas of high technology brought about by the convergence of computing and telecommunications. Its first offering took the form of a timesharing service which developed over the years into the Eurodial division which is now responsible for the company's activities in the field of telematique (timesharing, videotex services, and networking software).

- Other services which have grown to form their own divisions are:

  - Software engineering and turnkey systems with special emphasis on networking and telecommunications.

  - Database services.

  - Processing services for banks.

  - EDP facilities management.

- Revenues for 1985 were approaching 650 million francs, of which 3% came from overseas, and growth over 1984 was 23%. Facilities management remains the largest division taking some 250 million francs of turnover or almost 40%. This makes Telesystemes France's and Europe's market leader.

2. FM SERVICES

- In the early 1970s, Telesystemes was asked to set up a series of regional data processing centres for the French PTT (the DGT) to handle the administrative applications of the telecommunications network:

  - Subscriber invoicing, stock control, directory production, subscriber enquiries, service quality control, management information, and accounting.

- Thirteen centres were set up between 1971 and 1979 and have since been managed by Telesystemes under long-term contracts. Together with its own network services centres (Eurodial and Questel divisions), the company is responsible for some 16 processing centres and the associated networks. Twenty-five mainframe processors are involved.

- Four hundred of the company's 1,300 staff are employed by the FM division.

- The division has considerable expertise in machine room and computer building construction and maintenance, and this is marketed as a separate, distinct service.

3. MARKETING STRATEGY

- Telesystemes is unusual among European network services suppliers in having come to the computing services business from a background in telecommunications. It is as if AT&T had entered the RCS sector at the start of the 1970s and had to survive through the period (since the late 1970s) of declining processing services revenues by finding business in other sectors.

- In 1985, 43% of turnover came from nonprocessing services revenues, chiefly professional services and turnkey systems.

- Thus considerable effort has been expended to provide a broad-based catalogue of services to the detriment of the establishment of a coherent sales policy. Telesystemes markets its FM expertise with a small team of a half dozen senior sales executives, who together with the managers undertake the prospecting for new business. They have a pool of 100 qualified technical staff to draw on for backup in tender preparation and pre- and post-sales support.

- The recent growth of the FM business at around 5-10% per annum has been well below the overall growth of the company, but the management is satisfied that its market share is growing at the expense of its competitors.

- A key challenge to the company is to achieve synergy between its different divisions in line with the changing economics of the computing services business.

D. HOSKYNS GROUP LTD.

1. BACKGROUND

- Hoskyns is the U.K.'s market leader in the FM sector as well as number two in the European market by dint of gaining 20 million pounds in revenues in calendar 1985 from its activities in the sector. All this revenue was gained in the U.K., since entry into the other country markets in Europe with FM services, though a matter for discussion and possible proposals, has still not got beyond the project planning stage.

- Hoskyns is one of the leading computing services companies in the U.K. with 1985 fiscal revenues (to 31 October 1985) of 56 million pounds, a turnover which has doubled in two years since 28 million pounds was announced for fiscal 1983.

- As a subsidiary of the U.S. Martin Marietta Data Systems (a division of Martin Marietta Corporation), Hoskyns is a 'full product line' computing services company, with activities in:

  - Processing services (Data Centres), Software Products, Professional Services, Turnkey Systems, and authorised dealerships with a number of leading hardware manufacturers (DEC, HP, IBM, ICL).

- The company was formed in 1964 and was acquired by its present parent organisation some 12 years later.

2. FM SERVICES

- Facilities management has been integral to Hoskyns' strategy since the first deal was signed in 1970, and has proved to be an engine of growth as well as a means of broadening its service offerings away from its original focus on systems and programming to include processing and hardware capabilities as well.

- Two types of service contracts are undertaken each with its own business solution objective:

    - True FM is usually a long-term (three to five year at least) contract in which Hoskyns takes over the existing data processing installation, usually transferring staff and possibly taking ownership of hardware.

    - The specific 'Crossroads' service is a shorter-term (two to three years) solution in which the objective is to assist management to achieve a step function in its use of information and data processing technology; for example, in moving from a centralised to a decentralised environment. The customer concedes the running (and running down) of the old technology to Hoskyns, reserving the start-up and implementation of new technology to its own possibly slimmed down and/or retrained teams.

- Hoskyns has been able to achieve substantial revenues and profits from these activities by:

    - Consolidation of customer workloads onto its own national network of centres in the north, midlands, and south of the country.

    - Flexible contract arrangements to accept customer staff onto its own payroll, thereby offering enhanced career paths and avoiding the people problems associated with sudden changes in a business.

- Over 100 contracts have been signed of both types, and over 20 are ongoing at the time of writing. Contracts vary in value between 500,000 pounds and over 10 million pounds, and in duration from 18 months for the shortest Crossroads deal to over 12 years for one of the early FM signings.

- The services are offered on ICL, IBM, and DEC mainframes.

3. MARKETING STRATEGY

- Hoskyns' aim of helping in the management of change is marketable at two levels:

    - At the technical level, computing has undergone a radical shift in emphasis away from the centre and into the hands of the end user in a remarkably few years at the start of this decade. Many organisations have still to fully work through the implications of this in terms of new hardware, new systems, and staff reeducation.

    - On the commercial level, the increasing globalisation of trade and economic life, the increased competitiveness of markets (where once well-established national leader companies face onslaughts from incoming multinational giants), and the shorter life cycle of modern products all conspire to making it increasingly difficult for information processing management to keep pace with the fast developing plans of their general management in today's volatile markets.

- Selling to these marketing thrusts is achieved at Hoskyns by a senior level of sales consultant who is dedicated to this activity and will be familiar at a detailed level with the type of business for which his tenders are being prepared.

E. THORN EMI DATASOLVE LTD.

I. BACKGROUND

- Datasolve is the part of Thorn EMI Information Services Division which is concerned with computer processing and computer education services, and is at the same time responsible for servicing the Thorn EMI group's internal information processing requirements. Thorn EMI Information Services Division, besides including Datasolve, comprises:

   - Computeraid, a company selling and maintaining business microcomputers.

   - Thorn EMI Computer Software, which distributes a large range of software products for the consumer end of the personal computer market--the home computer owner in particular.

- The Division together forms one of the largest computing services organisations operating from Europe and certainly has one of the largest shares of the European market. Revenues of approximately 75 million pounds are being forecast for fiscal 1986.

- In Datasolve itself there are four departments:

   - CMS (Central Management Services), supplying all network and data processing facilities to the parent group and, therefore, consisting mainly of captive revenue.

   - Datasolve Bureau, providing processing and associated services on the U.K. open market.

   - Datasolve Information Services, the on-line database system and service vendor, well known for its World Reporter databases.

   - Datasolve Education Services, which provides a whole range of data processing training courses.

2. FM SERVICES

- FM services are provided by Datasolve Bureau, which is also one of the U.K.'s important suppliers of a disaster recovery centre service under the Datashield service name.

- Datasolve owns and runs one of the largest IBM-compatible computing complexes in Europe at Sunbury-on-Thames with both dedicated and shared large-scale processors installed.

- Datasolve is principally an IBM shop, and its FM services are restricted (if that is the right word for machines which cover 60% of the U.K. market) to the IBM-compatible base of customers.

- Datasolve markets FM in three different modes:

    - Facilities Manager is a service which follows the lines of the original or traditional FM definition, a user-site service in which the contractor operates and manages systems on the user machine complex in as comprehensive a manner as possible.

    - Mainframe Host is a similar service but sited on Datasolve premises and providing one or more dedicated mainframe processors as well as a portfolio of ancillary services which are shared by all users of the vendor's complex--back-up, standby generators, communications facilities, etc.

    - Virtual Computer is similar to Mainframe Host, i.e., it is sited on Datasolve's premises, but in this case the user is provided with a partition on a shared Datasolve procesor, tailored in size to the capacity needed to satisfy his requirement for processing power.

- The three levels of service are sold under the service name Datasolve Power-Source.

3. MARKETING STRATEGY

- The Power-Source service range is marketed within an overall product marketing philosophy which aims at the medium to large user company and encompasses a mix of vertical niche markets and cross-industry functional products, all sold to the business and commercial sectors.

- Datasolve has a history of selling FM deals going back to the 1960s when it was acquired by BOC Information Services and then grew swiftly in size through a series of other acquisitions and FM deals in which user installations were taken over and used for both client and third-party processing to increase their capacity utilisations.

- Present day sales staff consist of a dozen or so sales executives, dedicated to selling FM. Senior technical people and senior management are of course also involved to support bid preparation.

- Currently, ten or so contracts are ongoing at any one time, but it is hoped to fill the order book with a greater number of the smaller size projects, each with annual revenues of under 500,000 pounds.

F. SCICON LTD.

1. BACKGROUND

- Scicon Limited is the U.K. computing services operating company in the Scicon International Ltd. group, which is the information processing arm of the BP group. Scicon Ltd. is a wholly owned subsidiary, which operates from a new campus complex at Wavendon Tower near Milton Keynes, Bedfordshire.

- It is one of the U.K.'s top ten computing services company with a strong group presence in U.S. and European markets:

  - GFI, a sister company of the group in France.

  - SCS, the West German group company and one of the country's largest software and systems company.

  - SISCO in the U.S.

- Scicon Ltd. itself undertakes large systems projects overseas and has a considerable track record in Defense and Middle East contracts.

- Scicon group made over 180 million pounds in revenue in 1985 (its silver jubilee year), of which Scicon Ltd. accounted for 38.5 million pounds or approximately $55 million with a staff of over 1,000.

- The breakdown of the U.K. company's revenues has a minority percentage in processing services, with the majority coming from professional services and turnkey systems.

2. FM SERVICES

- Scicon conducts a small number of medium-sized FM contracts and offers the capability on IBM and Sperry mainframe equipment housed at Milton Keynes.

- Traditionally (up to the end of the 1970s), Scicon Computer Services was a Sperry-based service bureau but became an IBM shop in 1980, since which time the Sperry equipment has been progressively phased out and would now only be used for shared/dedicated processors destined to fulfill an FM contract. However, Scicon retains considerable Sperry expertise and is well placed to benefit from the increasing number of U.K. users wishing to migrate from BUNCH suppliers to IBM.

- Scicon FM services are marketed under the service name Managed Remote Processing (MRP) and have been offered since 1981.

- Hertz Cars is a well-publicised Scicon FM contract involving real-time reservation and rental data update. It was a pioneering contract for Scicon on IBM kit.

- Contract values vary from a relatively modest 120,000 pounds per annum to up to 2 million pounds, depending upon the amount of building space which might have to be allocated for a dedicated processor. A typical contract value would lie in the region of under 500,000 pounds.

- Duration of contracts range between three and five years, though the company would be willing to go lower. Five years at a time is the target. One customer has been with Scicon for over 15 years, having grown up from being a straight bureau user to having an FM contract. Scicon has no experience of users not renewing.

3. MARKETING STRATEGY

- All moves to enter or penetrate markets at this time have to be seen against the backdrop of an attempt on the part of Scicon to become a much more significant revenue contributor in the BP group. This will mean large investments and a complete change of image, but first there is a lot of convincing to do within the Scicon group itself.

- The FM services are offered by the Information Processing Services division of Scicon Ltd.'s Computing and Technical Services department, which being largely IBM-based has a somewhat different ethos to its professional services counterparts whose background over the years has steeped them in the philosophy of DEC systems.

- The company is clear in its own mind why users should consider and opt for the FM solution:
    - The increasing difficulty of running a large IBM system with networking.
    - The mounting cost of providing and ensuring the correct level of service to end users.
- On the other hand, Scicon is less clear as to how to pick out a direction along which to market FM:
    - Banking and finance, and possibly government, are seen as the sectors with greatest potential.
- Scicon uses its general sales force as 'lead feeders' to a handful of senior managers who prepare and sell the FM proposals. This is essentially an opportunistic approach, similar to what transpires in certain of the French FM suppliers.

G. EDS (ELECTRONIC DATA SYSTEMS)

I. BACKGROUND

- EDS is well known as a large and aggressive U.S. computing services company, headquartered in Dallas and founded by Ross Perot, a Texan who personifies all the virtues of the American work ethic coupled to the best of U.S. management methods. EDS gained the limelight in the U.K. computer industry when it acquired UCSL (Unilever Computer Services Ltd.) in 1984 and was then shortly afterwards itself acquired by GM (General Motors) of Detroit.

- Up to that moment EDS had vied with ADP (Automatic Data Processing, Inc.) for first place in the U.S. computer services rankings. At a stroke, EDS was able, due to its arms-length arrangement with GM to operate as an autonomous subsidiary, to overtake its rival and move to the number one position with over $3 billion revenues in calendar 1985, having converted all the costs of information processing within the GM group into part of its own revenue stream.

- What is less well known is that Ross Perot fathered the idea of facilities management as a means of providing services to hard-pressed EDP users. From his original concept have evolved the different forms of FM currently practised within the computer industry today.

2. FM SERVICES

- Although EDS has been present in Europe for several years, its activity has been mostly confined to individual professional services contracts until the time of the UCSL acquisition, by which it was signalling its abandonment of the organic growth route into Europe.

- Since 1984, EDS has championed the cause of facilities management the length and breadth of Europe, awakening users to the possibilities and reminding suppliers, indirectly, that FM was a neglected element in their product portfolios.

- The intense interest aroused has still to redound to the benefit of EDS itself, although some few contracts have been signed and other large contracts are at the tender stage. The sheer amount of presence has built up a market which is correctly conditioned to listen seriously to the large and very large computing service companies.

- In calendar 1985, EDS achieved $300 million in Europe, of which $120 million was noncaptive, i.e., external to GM group. There are approximately 4,000 staff, with the main concentrations being sited in the U.K., Netherlands, and West Germany.

- Facilities management is one of a trio of mainstream products offered by EDS. The other two are:

  - Systems integration.

  - Telecommunications.

- The services are aimed principally at large organisations (Europe 500) and are sold at two levels:

  - Regionally to large multinationals.

  - Nationally to leading indigenous companies and subsidiaries of multinationals.

- The FM service is conceived to run on the EDS network of computer centres in Europe with terminals sited on user premises. Networking is a necessary element in any major EDS contract. A full spectrum of capabilities can be incorporated in any individual user's contract from straightforward operations management right down to detailed application support and application system development.

3. MARKETING STRATEGY

- EDS philosophy aims to provide an environment in which organisations can be free to pursue their proper business aims without the burden of worry associated with the supply of in-house information support. Convinced that companies have historically under-invested in the supporting infrastructure to permit easy use of the new technology of computing, EDS sees its own business potential lying with the awakening realisation of large corporations and public bodies that 'survival' in a competitive and cost-conscious world depends upon adequate and timely provision of quality information systems.

- The challenges to a firm of EDS size and background are twofold:

  - Getting to grips with the 'nuts and bolts' of the European business world with its diversity and varying scales of operation.

  - Overcoming the inevitable centripetal force which will increasingly make itself felt from within the GM empire.

- This second challenge is the more formidable, and it remains to be seen whether EDS can avoid the fate of the lively Calma after it was acquired by General Electric (GE).

APPENDIX A: DEFINITIONS

APPENDIX A: DEFINITIONS

- INFORMATION SERVICES - The provision of:
    - Data processing functions using vendor computers (processing services).
    - The provision of database access where computers perform an essential role in the processing or conveyance of data.
    - Service that assist users to perform functions on their own computers (software products and/or professional services).
    - A combination of hardware and software, integrated into a total system (integrated systems).

A. REVENUE

- All revenue and user expenditures reported are available (i.e., noncaptive) revenue, as defined below:

- CAPTIVE INFORMATION SERVICES REVENUE - Revenue received from users who are part of the same parent corporation as the vendors.

- NONCAPTIVE INFORMATION SERVICES REVENUE - Revenue received for information services provided within the four Western European country markets of France, Italy, the U.K., and West Germany from users who are not part of the same parent corporation as the vendor.

- OTHER REVENUE - Revenue derived from lines of business other than those defined above.

B. SERVICE MODES

- PROCESSING SERVICES - Remote computing services, batch services, and processing facilities management.

    - REMOTE COMPUTING SERVICES (RCS) - Provision of data processing to a user by means of terminals at the user's site(s) connected by a data communications network to the vendor's central computer. There are four submodes of RCS:

        - DATABASE - Characterised by the retrieval and processing of information from a vendor-provided database. The database may be owned by the vendor or a third party.

        - INTERACTIVE (timesharing) - Characterised by the interaction of the user with the system, primarily for problem-solving timesharing, but also for data entry and transaction processing; the user is on-line to the program/files.

        - REMOTE BATCH - Where the user hands over control of a job to the vendor's computer, which schedules job execution according to priorities and resource requirements.

- USER SITE HARDWARE SERVICES (USHS) - These offerings provided by RCS vendors place programmable hardware on the user's site (rather than in the EDP centre). USHS offers:

    - Access to a communications network.

    - Access through the network to the RCS vendor's larger computers.

    - Significant software as part of the service.

- BATCH SERVICES - This includes data processing performed at vendors' sites of user programs and/or data that are physically transported (as opposed to electronically by telecommunications media) to and/or from those sites. Data entry and data output services, such as key punching and computer output microfilm processing, are also included. Batch services include expenditures by users who take their data to a vendor site that has a terminal connected to a remote computer for the actual processing.

- PROCESSING FACILITIES MANAGEMENT (PFM) (Also referred to as "resource management" or "systems management") - The management of all or a major part of a user's data processing functions under a long-term contract (more than one year). This would include both remote computing and batch services. To quality as PFM, the contractor must directly plan, control, operate, and own the facility provided to the user, either on-site, through communications lines, or in a mixed mode.

- Processing services are further differentiated as follows:

    - Function-specific services are the processing of applications that are targeted to specific user departments (e.g., finance, personnel, sales) but cut across industry lines. Most general ledger, accounts receivable, payroll, and personnel applications fall into this category. Function-specific database services where the vendor supplies the database and controls access to it (although it may be owned by a third party) are included in this category. General purpose tools such as financial planning systems, linear regression packages, and other statistical routines are also included. However, when the application, tool, or database is designed for specific industry use, then the service is industry-specific.

- Industry-specific services provide processing for particular functions or problems unique to an industry or industry group. The software is provided by the vendor either as a complete package or as an applications tool that the user employs to produce a unique solution. Specialty applications can be either business or scientific in orientation. Industry-specific database services, where the vendor supplies the database and controls access to it (although it may be onwed by a third party), are also included under this category. Examples of industry-specific applications are seismic data processing, numerically controlled machine tool software development, and demand-deposit accounting.

- Utility services are those where the vendor provides access to a computer and/or communications network with basic software that enables users to develop their own problem solutions or processing systems. These basic tools include terminal-handling softare, sorts, language compilers, database management systems, information retrieval software, scientific library routines, and other systems software.

- SOFTWARE PRODUCTS - This category includes users' purchases of applications and systems packages for use on in-house computer systems. Included are lease and purchase expenditures as well as fees for work performed by the vendor to implement and maintain the package at the user's site. Fees for work performed by organisations other than the package vendor are counted in professional services. There are several subcategories of software products:

- APPLICATIONS PRODUCTS - Software that performs processing that services user functions. They consist of:
    - CROSS-INDUSTRY PRODUCTS - Used in multiple-user industry sectors. Examples are payroll, inventory control, and financial planning.
    - INDUSTRY-SPECIFIC PRODUCTS - Used in a specific industry sector such as banking and finance, transportation, or discrete manufacturing. Examples are demand-deposit accounting and airline scheduling.
- SYSTEMS PRODUCTS - Software that enables the computer/communications system to perform basic functions. They consist of:
    - APPLICATION DEVELOPMENT PRODUCTS - Used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Examples include languages, sorts, productivity aids, data dictionaries, database management systems, report writers, project control systems, and retrieval systems.
    - DATA CENTER MANAGEMENT PRODUCTS - Used by operations personnel to manage the computer system resources and personnel more effectively. Examples include performance measurement, job accounting, computer operations scheduling, and utilities.
    - SYSTEMS CONTROL PRODUCTS - Function during applications program execution to manage the computer system resource.

Examples include operating systems, communication monitors, emulators, and spoolers.

- PROFESSIONAL SERVICES - Made up of services in the following categories:
  - CONSULTING SERVICES - EDP management consulting and feasibility studies, for example.
  - EDUCATION SERVICES - EDP products and/or services--related to corporations, not individuals.
  - PROFESSIONAL SERVICES FACILITIES MANAGEMENT (PSFM) - The counterpart to processing facilities management, except that in this case the computers are owned by the client, not the vendor; the vendor provides people to operate and manage the client facility.
  - SOFTWARE DEVELOPMENT - Including system design, contract programming, and "body shopping."
- INTEGRATED SYSTEMS (Also known as Turnkey Systems) - An integration of systems and applications software with hardware, packaged as a single entity. The value added by the vendor is primarily in the software. Most CAD/CAM systems and many small business systems are integrated systems. This does not include specialized hardware systems such as word processors, cash registers, and process control systems.
- Integrated systems revenue in this report is divided into two categories:
  - CROSS-INDUSTRY systems; i.e., systems that provide a specific function that is applicable to a wide range of industry sectors, such as financial planning systems, payroll systems, personnel management systems, etc.

- INDUSTRY-SPECIFIC systems; i.e., systems that serve a specific function for a given industry sector such as seismic processing systems, automobile dealer parts inventories, CAD/CAM systems, discrete manufacturing control systems, etc.

- Revenue includes hardware, software, and support functions.

APPENDIX B: ASSUMED U.S. DOLLAR CONVERSION RATES

APPENDIX B

ASSUMED U.S. DOLLAR CONVERSION RATES
$1 =

CURRENCY	1985	1986	1987	1988	1991
French Francs	8.00	6.99	7.02	7.06	7.16
Italian Lira	1,770	1,492	1,529	1,567	1,688
Pounds Sterling	0.7	0.65	0.66	0.67	0.70
Deutsche Marks	2.62	2.18	2.14	2.09	1.97

APPENDIX C: USER QUESTIONNAIRE

USER QUESTIONNAIRE

QA First of all, may I just check on the total number of full-time employees in your company, not just at this location. Is it under 500, 500 - under 1000, or more than 1000?

Under 500	1 Thank and close
500 - 999	2 Check quotas
1000+	3

QB What is the principal activity of your organisation? WRITE IN ....

Code:	Discrete Manufacturing	1	
	Process Manufacturing	2	CHECK
	Banking and finance	3	QUOTAS
	Government (national & local)	4	
	Other	5	

QC Country

UK	1
France	2
West Germany	3

Q1 What do you consider to be the three most serious obstacles affecting your progress in providing an up-to-date, cost-effective computer service?

1. ____

____

2. ____

____

3. ____

____

Other comments:

____

Q2a. I am going to read out a variety of problems concerning data processing which have been experienced by other companies. For each one, could you tell me whether it is currently a very serious problem, fairly serious, not very serious, or is it not a problem at all for your company?

READ OUT, ROTATE ORDER

	Very Serious	Fairly Serious	Not very Serious	No Problem	DK
Recruiting staff	1	2	3	4	5
Training staff	1	2	3	4	5
Lack of end-user involvement	1	2	3	4	5
Coping with technological change (for the company)	1	2	3	4	5
Lack of management awareness	1	2	3	4	5
Data processing costs	1	2	3	4	5
Managing growth and/or changes to the business	1	2	3	4	5
Having inadequate systems software	1	2	3	4	5
Need to improve operations	1	2	3	4	5
Lack of industry communications standards	1	2	3	4	5
Developing communications systems for the company	1	2	3	4	5
Changes of operating systems	1	2	3	4	5
Large applications backlog	1	2	3	4	5

2b. Are there any other major problems you are currently facing which we have not covered? IF YES: What are they?

No, none	1
Don't know	2
Yes (WRITE IN)	3

3. To what extent would you describe your data processing functions as integrated - in other words, how inter-dependent are they, and do they rely on access to common data bases, for example? Would you describe them as:
(READ OUT)

Completely integrated	1
Integrated to a considerable degree	2
Integrated to some extent	3
Not integrated at all	4

Extra comments (WRITE IN)

4a. For each of the following areas (READ OUT), do you operate a single-supplier policy, deal only with a limited number of suppliers, or have no limit on the number of suppliers?

	Single Supplier	Limited Number	Unlimited	N/A
Data processing equipment	1	2	3	4
Office Automation	1	2	3	4
Software	1	2	3	4
Telecommunications equipment	1	2	3	4

Other (WRITE IN)

....

Extra comments (WRITE IN)

For each Answer to Q4a. ask:

4b. Who is currently your supplier/principal supplier for ....?

Data Processing equipment ....

Office Automation ....

Software ....

Telecommunications equipment ....

Other (WRITE IN) ....

....

5a. When did your last major upgrade of your equipment or change of operating system take place?

WRITE IN YEAR

19 ....

5b. What did that involve?

6a. Have you any future plans to upgrade your equipment or change your operating system in a major way?

Yes, upgrade equipment	1
Yes, change operating system	2 Ask Q6b
No, no plans	3 Ask Q7a

6b. Please could you briefly describe your plans and when you expect them to be put into action?

____

____

____

7a. Do you currently have any of the following forms of network in place?

READ OUT

7b. Do you have plans to install any of these, or any other networks, in the future?

	7a Now	7b Planned
Cable	1	1
Cellular radio	2	2
Packet Switched network	3	3
Satellite	4	4
Videotex	5	5
Other (WRITE IN)	6	6
....		
No, none of these / no plans	7	7

8a. Moving on now to large scale services contracts, or Facilities Management contracts for short, does your company currently have a contract of this nature in place, or not?

Yes	1	GO TO Q9
No	2	ASK Q8b.

8b. Have you any personal experience of running a Facilities Management contract in the past?

Yes	1	GO TO Q9
No	2	GO TO Q11

9. Does your current/did your past contract include any of the following aspects? READ OUT.

		Yes	No	dk/can't remember
a)	Running all your applications on the contractor's machine(s)	1	2	3
b)	Running a major part of your work on his machine(s)	1	2	3
c)	Using a machine dedicated to all, or a major part, of your work, sited on the contractor's premises	1	2	3
d)	The management of your networking requirements on his network	1	2	3
e)	Setting up and/or running a dedicated network for all, or a major part, of your networking applications	1	2	3
f)	The provision by the contractor of planning, software design, and implementation services at your company's location for all, or a major part, of your applications development	1	2	3

10. Are/were there any other service aspects included in your Facilities Management contract which we have not covered? IF YES: What are/were they?

No, no others	1
Don't know/can't remember	2
Yes (WRITE IN)	

____

____

____

ASK IF NOT CURRENTLY USING FACILITIES MANAGEMENT

11. Under what circumstances would you contemplate going to a large-scale services arrangement (again)?

____

____

____

ASK IF CURRENTLY USING FACILITIES MANAGEMENT

12. What are your future plans for the continuation of this type of project?

____

____

____

13. How do/would you justify the cost of a Facilities Management deal compared with the cost of other arrangements?

____

____

____

14. What trends do you think will affect the large-scale services market over the next few years? PROBE: Any other commercial, organisational or technological trends which will have an impact?

____

____

____

____

15. In order to make a Facilities Management contract appealing, what options would you particularly like to see included?

	Yes	No	D/K
Fixed-price on monthly basis	1	2	3
Capacity extension facility (ability to go over agreed limits for additional charges)	1	2	3
Penalty clauses	1	2	3
Evergreen clause (Vendor guarantee to update technology as appropriate)	1	2	3

PROBE: Any others? (WRITE IN)

____

____

16. Have you any interest in the possibility of a Facilities Management contract to provide the connection of personal computers/micros to the corporate data processing centre (micro-mainframe links)?

____

____

____

17. Are there any other comments you would like to make on the topics we have covered in this interview?

____

____

____

Finally, I should like to cover some classification and budget details.

18a. Can you please give me some indication of your total data processing budget for 1986? (excluding building and facility costs)

18b. How does this break down proportionally between the following areas (READ OUT), are there any other important budget areas which we have not mentioned? (WRITE IN PERCENTAGES)

18c. What changes do you anticipate in your budget for 1987, both in total and for particular segments, approximately?

		(18b.) 1986 % Breakdown or amounts of money	(18c.) % Change 1987
Personnel		________	________%
Communications (i.e. computer-related hardware and software)		________	________%
All other software		________	________%
All other hardware (including maintenance)		________	________%
Professional services (eg. contract staff, custom development)		________	________%
Other services (WRITE IN) ________________________		________	________%
TOTAL	(18a.)	£________	£________

Don't know ___

Refused ___

19. Does your company purchase outside computer services that are not under the control of your own data processing management?

Yes 1

No 2

20a. And what was your company's total approximate expenditure in 1985 on processing services?

20b. and on professional services?

20c. or any other computer services? WRITE IN AMOUNT

		Dk	Refused
a) Processing	________________	X	Y
b) Professional	________________	X	Y
c) Other	________________	X	Y

21. How many full-time Data Processing staff are employed by your company?

WRITE IN ____________________

22. What was your company's annual turnover (revenue) in 1985?

WRITE IN £ __________________.

THANK YOU VERY MUCH INDEED FOR YOUR HELP.

APPENDIX D: VENDOR QUESTIONNAIRE

VENDOR QUESTIONNAIRE

1. COMPANY BACKGROUND DATA

Company Name: ______________________________

Address: ______________________________

____

Telephone No: ________________

Number of Employees: __________ Financial Year End ______
Day/Mth

Ownership: ☐ Public ☐ Private ☐ Subsidiary

If a subsidiary:

Parent Company Name: ______________________________

Address: ______________________________

____

Telephone No: ________________

If your company has any subsidiaries please list here with principal business activity.

____

____

____

____

____

____

2. PRINCIPAL BUSINESS ACTIVITY

Please describe the principal business of your firm: ____________

____

____

____

____

____

Please provide an analysis of your overall business by application or industry specialisation (as appropriate) in the table below.

	Processing	Software Products	Professional Services	Integrated System
FM COMPONENT				

3. INDUSTRIES SERVED

Please indicate what percent of your revenue is derived from the following major industry segments:

- o MANUFACTURING ______ %
  - ☐ Discrete ☐ Process
- o DISTRIBUTION ______ %
  - ☐ Retail ☐ Wholesale
- o TRANSPORTATION ______ %
- o UTILITIES ______ %
- o GOVERNMENT ______ %
  - ☐ National
  - ☐ Local
- o BANKING AND FINANCE ______ %
- o INSURANCE ______ %
  - ☐ Life/Health
  - ☐ Agents/Brokers
- o SERVICES ______ %
- o OTHER (Please define) ______ %

____

____

____

100%

4. GEOGRAPHIC MARKETS

Please indicate what percent of your information services revenue comes from:

France _____ %

Italy _____ %

United Kingdom _____ %

West Germany _____ %

Other European _____ %

United States _____ %

Other International _____ %

100%

5. Do you operate in the large-scale contract/FM market?

NOT AT ALL
YES - A LITTLE
YES - MAJOR REVENUE EARNER

______ %

Comments: ______________________

____

____

6. Do you intend to operate in the large-scale contract FM market in future?

NO
YES - MINOR REVENUE EARNER
YES - MAJOR REVENUE EARNER

______ %

Comments: ______________________

____

____

IF THE ANSWER IS NO TO BOTH QUESTIONS 5 AND 6, PLEASE COMPLE NO. 7 BELOW, AND THANK YOU FOR YOUR TIME AT THIS INTERVIEW.

7. What are your principal strategic axes of development? (And if NO to 5 and 6 why do they not include FM?)

i) ______________________

____

ii) ______________________

____

iii) ______________________

____

CONTINUE IF CURRENT OR FUTURE FM VENDOR

8. How do you define FM in terms of processing/professional/other services?

____

____

____

9. Is this a growing market segment? And what market opportunities do you foresee - over the next 5 years?

____

____

____

10. What are your plans for capitalising on these opportunities? And do they include networking applications and services?

____

____

____

HISTORY OF INVOLVEMENT WITH LARGE SCALE CONTRACTS/FM

11. How long have you been offering these large scale services?
And in what ways have your offerings evolved to meet changing market needs?
(External/technological factors influencing the market).

____

____

____

12. What specific services do you offer? Under what service names? And are they to some degree industry specific?

		Industry Specific	
i)	________________	______	%
	________________	______	
ii)	________________	______	%
	________________	______	
iii)	etc	______	%

13. How comprehensive have your FM contracts been in terms of a package of services to take away the users' headaches?

____

____

14. Has it usually included responsibility for any/most of the following?

%age of cases.	
%	Running all of a user's applications on your machine(s).
	Running a major slice of a user's work on your machine(s).
	Providing a dedicated machine on your site to run all or a major part of a user's work.
	Managing a user's networking functions using your own network or network services.
	Setting up and running a dedicated network for all or a major part of a user's networking applications.
	Providing planning, design and software implementation services on a user's site for all or a major part of his systems.
	Other (please specify) ____________________
	________________________________

15. What options, support services and other features are important to your FM clients?

____

____

____

16. What is the range in annual value of large-scale contracts in your experience?

Ranging from ________________ p.a. to ________________ p.a.

Mean value ________________ (N.B. Use local currency.)

17. What has been the average duration of your large-scale service/FM contracts? And what have your FM clients moved on to?

____________________	Years
____________________	Prompts
____________________	Smaller contracts
____________________	In-house system
____________________	Competitor's Service.

18. What are the drivers and inhibitors to this market?

Drivers ____________________________________

____

____

Inhibitors __________________________________

____

____

19. What degree of exposure does involvement in FM incur? (Eg., if 50% of clients deserted in 1 year)

____

____

____

20. What is your estimate of the size and growth of the FM sector?

In your domestic market ______________ p.a. ______________ %AAGR

Rest of Europe ______________________ p.a. ______________ %AAGR

21. Who are your major competitors?

Domestic Market	Rest of Europe
1. ______________________	______________________
2. ______________________	______________________
3. ______________________	______________________

22. How do you manage the resource commitments required to mount a serious large-scale/FM capability?

Prompts

Sales Resources
Production Resources
Project Management

____

____

____

23. How do you market your large-scale services?

______________________________.....% of total sales force of ....

____

24. What size of company forms the bulk of your large-scale/FM customers? And how does this compare with your overall customer base.? (Please give %ages of total base of .... customers)

No. of staff	FM Clientele (Current/Potential)	Overall
More than 1,000		
250 - 1,000		
Less than 250		

What is the trend? ______________________________

____

25. Which industries are good FM targets? Please mark High, Medium or Low potential and add any relevant comments.

	H/M/L	Comments
Manufacturing	.....	
Utilities	.....	
Distribution	.....	
Transportation	.....	
Banking & Finance	......	
Insurance	......	
Government	......	
Services	......	
Other (Please specify)	......	

Where are you concentrated/concentrating?

26. What are DP managers doing about large-scale/FM contracts? And how do they perceive you/your FM offerings? Whom do you contact?

27. How do you conduct your marketing campaigns for large-scale/FM contracts (and its associated services in your overall product mix)?

Prompts
Advertising
Direct mail
Seminars/Exhibitions
Brochures

28. What other related issues are there at this time?

____	Prompts
	VANS
____	PC links
	UNIX
____	Software development
	General
____	
____	

29. Any other aspects of importance?

____

____

____

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.